

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. CONTRACT ID CODE N/A	PAGE 1 OF PAGES 68
2. AMENDMENT/MODIFICATION NO. 0001	3. EFFECTIVE DATE 24 JUL 03	4. REQUISITION/PURCHASE REQ. NO. N/A		5. PROJECT NO. (If applicable)
6. ISSUED BY CODE		7. ADMINISTERED BY (If other than Item 6) CODE		
DEPARTMENT OF THE ARMY CORPS OF ENGINEERS SACRAMENTO 1325 J STREET SACRAMENTO, CALIFORNIA		SEE ITEM 7		

8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)		(✓)	9A. AMENDMENT OF SOLICITATION NO. DACW07-03-B-0005
		(X)	9B. DATED (SEE ITEM 11) 7 JUL 2003
			10A. MODIFICATION OF CONTRACTS/ORDER NO. N/A
			10B. DATED (SEE ITEM 13) N/A
CODE	FACILITY CODE		

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☒ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☐ is extended, ☒ is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:

(a) By completing Items 8 and 15, and returning 1 copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

(✓)	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor ☐ is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

OAKLAND HARBOR NAVIGATION IMPROVEMENT (50 FOOT) DEEPENING PROJECT INNER AND OUTER HARORS DREDGING, PHASE 3A
ALAMEDA & SAN FRANCISCO COUNTIES, CALIFORNIA

1 ENCL

1) SF 1442, Pricing Schedule, 00700, 00800, Table of Contents, 01005, 01300, Submittal, 01405, 01430, 02480 and Appendix 10.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)	
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY	16C. DATE SIGNED
(Signature of person authorized to sign)		(Signature of Contracting Officer)	

SOLICITATION, OFFER, AND AWARD <i>(Construction, Alteration, or Repair)</i>	1. SOLICITATION NO. DACW 07-03-B-0005	2. TYPE OF SOLICITATION <input checked="checked" type="checkbox"/> SEALED BID (IFB) <input type="checkbox"/> NEGOTIATED(RFP)	3. DATE ISSUED 07-Jul-2003	PAGE OF PAGES 1
IMPORTANT - The "offer" section on the reverse must be fully completed by offeror.				
4. CONTRACT NO.	5. REQUISITION/PURCHASE REQUEST NO.		6. PROJECT NO.	
7. ISSUED BY CODE DACW07 DEPARTMENT OF THE ARMY, SACRAMENTO DISTR 1325 J STREET, CONTRACTING DIVISION SACRAMENTO CA 95814-2922 TEL: FAX:		8. ADDRESS OFFER TO <i>(If Other Than Item 7)</i> CODE See Item 7 TEL: FAX:		
9. FOR INFORMATION CALL:	A. NAME JAMES E GARROR		B. TELEPHONE NO. <i>(Include area code)</i> (NO COLLECT CALLS) 916-557-5229	
SOLICITATION				
NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder".				
10. THE GOVERNMENT REQUIRES PERFORMANCE OF THE WORK DESCRIBED IN THESE DOCUMENTS <i>(Title, identifying no., date):</i> OAKLAND HARBOR NAVIGATION IMPROVEMENT (50 FOOT) DEEPENING PROJECT INNER AND OUTER HARBORS DREDGING, PHASE 3A ALAMEDA AND SAN FRANCISCO COUNTIES, CALIFORNIA DESCRIPTION: THE WORK CONSISTS OF A BASE CONTRACT WITH OPTIONS FOR DREDGING OF THE PORT OF OAKLAND OF APPROXIMATELY 135,000 CUBIC YARDS OF WETLAND NON -COVER MATERIAL TO A PROJECT DEPTH OF MINUS 36 FEET MLLW OR TO REFUSAL, WHICHEVER OCCURS FIRST, USING AN ENVIRONMENTAL BUCKET, AND TRANSPORT AND DELIVERY OF THE DREDGED MATERIALS TO THE DESIGNATED UPLAND DISPOSAL SITE AT THE MONTEZUMA WETLAND PROJECT (MWP) IN COLLINSVILLE, CA. IN ADDITION THERE WILL BE DREDGING OF APPROXIMATELY 209,000 CUBIC YARDS OF WETLAND COVER MATERIAL TO A PROJECT DEPTH OF MINUS 50 FEET MLLW, PLUS 1-FOOT REQUIRED OVERDEPTH, PLUS 1-FOOT OF ALLOWABLE OVERDEPTH AND TRANSPORT AND DELIVERY OF THE DREDGED MATERIALS TO MWP. THE CONTRACTOR MUST USE ELECTRICALLY POWERED DREDGING PLANTS AND BE ABLE TO DELIVER THE DREDGED MATERIAL TO MWP AT A MINIMUM RATE OF 4,000 CUBIC YARDS PER DAY. ESTIMATED COST RANGE OF PROJECT: \$5,000,000 - \$10,000,000				
11. The Contractor shall begin performance within <u>10</u> calendar days and complete it within <u>120</u> calendar days after receiving <input type="checkbox"/> award, <input checked="checked" type="checkbox"/> notice to proceed. This performance period is <input checked="checked" type="checkbox"/> mandatory, <input type="checkbox"/> negotiable. <i>(See FAR 52.211-10)</i>				
12 A. THE CONTRACTOR MUST FURNISH ANY REQUIRED PERFORMANCE AND PAYMENT BONDS? <i>(If "YES," indicate within how many calendar days after award in Item 12B.)</i> <input checked="checked" type="checkbox"/> YES <input type="checkbox"/> NO			12B. CALENDAR DAYS 10	
13. ADDITIONAL SOLICITATION REQUIREMENTS: A. Sealed offers in original and <u>0</u> copies to perform the work required are due at the place specified in Item 8 by <u>1:00 PM</u> <i>(hour)</i> local time <u>07 Aug 2003</u> <i>(date)</i> . If this is a sealed bid solicitation, offers must be publicly opened at that time. Sealed envelopes containing offers shall be marked to show the offeror's name and address, the solicitation number, and the date and time offers are due. B. An offer guarantee <input checked="checked" type="checkbox"/> is, <input type="checkbox"/> is not required. C. All offers are subject to the (1) work requirements, and (2) other provisions and clauses incorporated in the solicitation in full text or by reference. D. Offers providing less than <u>30</u> calendar days for Government acceptance after the date offers are due will not be considered and will be rejected.				

SOLICITATION, OFFER, AND AWARD*(Construction, Alteration, or Repair)***OFFER (Must be fully completed by offeror)**

14. NAME AND ADDRESS OF OFFEROR <i>(Include ZIP Code)</i>		15. TELEPHONE NO. <i>(Include area code)</i>
		16. REMITTANCE ADDRESS <i>(Include only if different than Item 14)</i>
CODE	FACILITY CODE	

17. The offeror agrees to perform the work required at the prices specified below in strict accordance with the terms of this solicitation, if this offer is accepted by the Government in writing within _____ calendar days after the date offers are due. *(Insert any number equal to or greater than the minimum requirements stated in Item 13D. Failure to insert any number means the offeror accepts the minimum in Item 13D.)*

AMOUNTS

SEE SCHEDULE OF PRICES

18. The offeror agrees to furnish any required performance and payment bonds.

19. ACKNOWLEDGMENT OF AMENDMENTS*(The offeror acknowledges receipt of amendments to the solicitation -- give number and date of each)*

AMENDMENT NO.										
DATE										

20A. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN
OFFER *(Type or print)*

20B. SIGNATURE

20C. OFFER DATE

AWARD (To be completed by Government)

21. ITEMS ACCEPTED:

22. AMOUNT

23. ACCOUNTING AND APPROPRIATION DATA

24. SUBMIT INVOICES TO ADDRESS SHOWN IN
(4 copies unless otherwise specified)

ITEM

25. OTHER THAN FULL AND OPEN COMPETITION PURSUANT TO
☐ 10 U.S.C. 2304(c) ☐ 41 U.S.C. 253(c)

26. ADMINISTERED BY

CODE

27. PAYMENT WILL BE MADE BY:

CODE

CONTRACTING OFFICER WILL COMPLETE ITEM 28 OR 29 AS APPLICABLE

☐ 28. NEGOTIATED AGREEMENT *(Contractor is required to sign this document and return: _____ copies to issuing office.)* Contractor agrees to furnish and deliver all items or perform all work, requisitions identified on this form and any continuation sheets for the consideration stated in this contract. The rights and obligations of the parties to this contract shall be governed by (a) this contract award, (b) the solicitation, and (c) the clauses, representations, certifications, and specifications or incorporated by reference in or attached to this contract.

☐ 29. AWARD *(Contractor is not required to sign this document.)*

Your offer on this solicitation, is hereby accepted as to the items listed. This award summarizes the contract, which consists of (a) the Government solicitation and your offer, and (b) this contract award. No further contractual document is necessary.

30A. NAME AND TITLE OF CONTRACTOR OR PERSON AUTHORIZED
TO SIGN *(Type or print)*

31A. NAME OF CONTRACTING OFFICER *(Type or print)*

30B. SIGNATURE

30C. DATE

TEL:

EMAIL:

31B. UNITED STATES OF AMERICA
BY

31C. AWARD DATE

Section 00010 - Solicitation Contract Form

PRICING SCHEDULE

CONTRACTOR SHALL FURNISH ALL PLANT, LABOR, MATERIAL, EQUIPMENT, ETC.
NECESSARY TO PERFORM ALL WORK IN STRICT ACCORDANCE WITH THE TERMS AND
CONDITIONS SET FORTH IN THE CONTRACT TO INCLUDE ALL ATTACHMENTS THERETO.

LINE ITEM NO.	DESCRIPTION	QUANTITY	UNIT OF MEASURE	UNIT PRICE	TOTAL PRICE
0001	DREDGING AND DISPOSAL				
0001AA	MOBILIZATION/ DEMobilIZATION	1	LUM SUM	LUMP SUM	\$ _____
0001AB	DREDGING, TRANSPORT AND DELIVERY OF WETLAND NON-COVER (WNC) MATERIAL IN MONTEZUMA WETLANDS PROJECT DISPOSAL SITE	135,000*	CY	\$ _____	\$ _____
0001AC	DREDGING, TRANSPORT AND DELIVERY OF WETLAND COVER (WC) MATERIAL IN MONTEZUMA WETLANDS PROJECT DISPOSAL SITE	209,000*	CY	\$ _____	\$ _____
SUBTOTAL ESTIMATED PRICE					\$ _____
(ITEMS 0001AA THRU 0001AC)					
OPTION					
0002	DREDGING AND DISPOSAL				
0002AA	STANDBY TIME (SEE NOTE 8)	1	HR	\$ _____	\$ _____
0002AB	TRANSPORT AND DISPOSAL OF DEBRIS (SEE NOTE 9)	1	TN	\$ _____	\$ _____
SUBTOTAL OPTION ESTIMATED PRICE					\$ _____
(ITEMS 0002AA AND 0002AB)					
TOTAL ESTIMATED PRICE					\$ _____
(ITEMS 0001AA THRU 0002AB)					

the technical provisions by reference, in electronic or paper media as chosen by the Contracting Officer.

(b) The Contractor shall--

- (1) Check all drawings furnished immediately upon receipt;
- (2) Compare all drawings and verify the figures before laying out the work;
- (3) Promptly notify the Contracting Officer of any discrepancies;
- (4) Be responsible for any errors that might have been avoided by complying with this paragraph (b); and
- (5) Reproduce and print contract drawings and specifications as needed.

(c) In general--

- (1) Large-scale drawings shall govern small-scale drawings; and
- (2) The Contractor shall follow figures marked on drawings in preference to scale measurements.

(d) Omissions from the drawings or specifications or the misdescription of details of work that are manifestly necessary to carry out the intent of the drawings and specifications, or that are customarily performed, shall not relieve the Contractor from performing such omitted or misdescribed details of the work. The Contractor shall perform such details as if fully and correctly set forth and described in the drawings and specifications.

(e) The work shall conform to the specifications and the contract drawings identified on the attachment.

(End of clause)

252.236-7002 OBSTRUCTION OF NAVIGABLE WATERWAYS. (DEC 1991)

(a) The Contractor shall --

- (1) Promptly recover and remove any material, plant, machinery, or appliance which the contractor loses, ~~dumps, throws overboard,~~ sinks, or misplaces, and which, in the opinion of the Contracting Officer, may be dangerous to or obstruct navigation;
- (2) Give immediate notice, with description and locations of any such obstructions, to the Contracting Officer; and
- (3) When required by the Contracting Officer, mark or buoy such obstructions until the same are removed.

(b) The Contracting Officer may --

- (1) Remove the obstructions by contract or otherwise should the Contractor refuse, neglect, or delay compliance with paragraph (a) of this clause; and
- (2) Deduct the cost of removal from any monies due or to become due to the Contractor; or

The Government shall pay the Contractor upon submission of proper invoices for supplies delivered and accepted or services rendered and accepted for the portion of work actually performed under this contract. Invoices will be submitted in quadruplicate to the address in Block 26, SF1442, which will be completed at time of award. Invoices shall be submitted on ENG Form 93 which will be provided to the Contractor by the Government

52.0236-4801 SALVAGE AND SCRAP GOVERNMENT PROPERTY (OCT 1993)

(a) "Government property" means all property owned by or leased to the Government or acquired by the Government under the terms of the contract. It includes both Government-furnished property and contractor-acquired property.

(b) "Salvage" means Government property in possession of a contractor, including subcontractors, that, because of its worn, damaged, deteriorated, or incomplete condition or specialized nature, has no reasonable prospect of sale or use as serviceable property without major repairs, but has some value in excess of its scrap value.

(c) "Scrap" means Government personal property that has no value except for its basic material content.

(d) In accordance with FAR 45.505-8 the Contractor shall maintain records of all scrap and salvage generated from this contract. The Contractor's records shall contain the following information:

- (1) Contract Number
- (2) Description of salvageable items or classification (material content) of scrap
- (3) Quantity on hand

(e) The Contractor shall provide final accounting and disposition recommendations of all Government property not consumed in performing this contract or delivered to the Government including salvage and scrap. The Government will review the Contractor's records and shall cause correction if the Government disagrees with the classification of items as salvage or scrap. The Contractor shall dispose of the items as directed by the Contracting Officer. Items designated as scrap (agreed to by the Contracting Officer) shall be retained by the Contractor; its disposition shall be the responsibility of the Contractor. See Specification Section 01505, paragraph entitled "Scrap Material". Items designated as salvageable items (agreed to by the Contracting Officer) shall be turned over to the Government.

52.1180-4126 SAFETY AND HEALTH REQUIREMENTS MANUAL

Bidders are advised that they must comply with both EM 385-1-1, "Safety and Health Requirements Manual", dated 3 September 1996; and the standards issued pursuant to the "Occupational Safety and Health Act of 1970" (OSHA), Public Law 91-596, 91st Congress. It will be the responsibility of the Contractor to be aware of all changes in the OSHA standards and the effective date of such changes which apply during the performance of this contract. (Reference SPD R 1180-1-26 AUG 1973)

~~52.2900-4020 CERF IMPLEMENTATION~~

~~If the work specified in this contract is performed by a hopper dredge(s), the owner must have an active Basic Ordering Agreement (BOA) for the hopper dredge(s) on file with the Corps. The Contractor shall be obligated to make the hopper dredge(s) available to serve in the Corps of Engineers Reserve Fleet (CERF) at any time that the~~

~~hopper dredge(s) is performing work under this contract. When the contracting officer is notified of the decision to activate this dredge(s) into the CERF, he shall take appropriate action to release the dredge(s). He may then extend or terminate the contract to implement whichever action is in the best interest of the Government. the CERF contractor shall also be subject to the following conditions:~~

~~a. The Director of civil Works may require the contractor to perform emergency dredging at another CONUS (48 contiguous states) site for a period of time equal to the remaining time under this contract at the date of notification plus up to ninety (90) days at the previously negotiated rate which appears on the schedule of prices in the BOA.~~

~~b. The chief of Engineers may require the contractor to perform emergency dredging at an OCONUS (Outside CONUS which includes Alaska, Hawaii, Puerto Rico, the Virgin Islands, or U.S. Trust Territories) site for a period of time equal to the time remaining under this contract at the date of notification plus up to one hundred eighty (180) days at the negotiated rate which appears on the schedule of prices in the BOA.~~

~~c. The CERF shall be activated by the Chief of Engineers or the Director of Civil Works; then the Ordering Contracting Officer will notify the contractor. From the time of notification, the selected hopper dredge(s) must depart for the emergency assignment within seventy two (72) hours for CONUS or ten (10) days for OCONUS assignments.~~

~~d. A confirming delivery order will be issued pursuant to the Basic Ordering Agreement (BOA) by the Ordering Contracting Officer. Such Delivery order shall utilize the schedule of rates in the BOA for the specific hopper dredge(s).~~

~~e. If during the time period specified in a, b, or c, above, a CERF vessel(s) is still required, the contract performance may be continued for additional time by mutual agreement.~~

52.2900-4021 VARIATIONS IN ESTIMATED QUANTITIES - DREDGING

Where the quantity of a pay item in this contract is an estimated quantity and where the actual quantity of material within the required dredging prism varies more than fifteen percent (15%) above or below the stated estimated quantity within the required dredging prism, an equitable adjustment in the contract unit price will be made upon demand of either party. The equitable adjustment will be based upon any increase or decrease in costs due solely to the variations above one-hundred fifteen percent (115%) or below eighty-five percent (85%) of the estimated quantity within the required dredging prism.

52.2900-4025 SUBMITTAL SCHEDULE (ER 415-1-10, DTL 1110-4):

(a) Within 7 calendar days after receipt of notice to proceed, the Contractor shall complete and submit to the Contracting Officer, in duplicate, a Submittal Register (ENG Form 4288) listing all submittals required under the contract (including the Contract Clauses, Special Construction Considerations, and the Technical Specifications) and the dates of submittals. In addition to those items listed on ENG Form 4288, the Contractor shall furnish submittals for any proposed deviation from the plans or specifications. The scheduled need dates shall be recorded on the Register for each item for control purposes. In preparing the Register, adequate time (a minimum of 25 calendar days) will be allowed for review and approval and possible resubmittal. Scheduling shall be coordinated with the approved

TABLE OF CONTENTS

<u>Para. No.</u>	<u>Title</u>	<u>Page No.</u>
------------------	--------------	-----------------

TECHNICAL CLAUSES

DIVISION 1 - GENERAL REQUIREMENTS
SECTION 01005 - SUPPLEMENTARY CONDITIONS

1.	Construction Rights-of-Way	1
2.	Permits	1
3.	Order of Work	1
4.	General Safety Requirements	2 - 8
5.	Public Safety	8 - 9
6.	Project Sign	9
7.	Bulletin Board	9 - 10
8.	Hard Hat Sign	10
9.	Pre-Dredging Conference	10
10.	Public Utilities and Private Improvements	10
11.	Layout of Work	11
12.	Safety of Structures	12
13.	Payment	12
	Project Sign - Figure No. 1	13
	Hard Hat Signs - Figures No. 2 & 2A	14 - 15

SECTION 1300 - SUBMITTAL DESCRIPTIONS

1.	General	1
2.	Payment	1
	Submittal Register	2 - 3

SECTION 01305 - SUBMITTAL PROCEDURES

1.	Approved Submittals	1
2.	Disapproved Submittals	1
3.	Withholding of Payment	1
4.	Submittal Register	1 - 2
5.	Scheduling	2
6.	Transmittal Form (Eng Form 4025)	2
7.	Submittal Procedure	2
8.	Control of Submittals	3
9.	Payment	3

TABLE OF CONTENTS (CONT.)

<u>Para. No.</u>	<u>Title</u>	<u>Page No.</u>
------------------	--------------	-----------------

SECTION 01312 - RESIDENT MANAGEMENT SYSTEM (RMS)

1.	General	1
2.	RMS-QC Software	1 - 2
3.	System Requirements	2
4.	Related Information	3
5.	Contract Database	3
6.	Database Maintenance	3 - 7
7.	Implementation	7
8.	Data Submission Via Computer Diskette or CD-ROM	7 - 8
9.	Monthly Coordination Meeting	8
10.	Notification of Non-compliance	8
11.	Payment	8

SECTION 01330 - HYDROGRAPHIC SURVEYS

1.	Description of Work	1
2.	General	1
3.	Hydrographic Surveys	1 - 3
4.	Calibration - Accuracies	3 - 4
5.	Hypack for Windows (HFW) Metadata Requirements	4
6.	Submittals	4 - 5
7.	Coordination	5
8.	Interim and Quality Control (CQC) Hydrosurveys	5 - 6
9.	Approval and Payment Procedures for Contract Survey Reaches - CQC	6
10.	Acceptance of Quality Control Surveys for Providing Corps Scheduled Payment Surveys For Final Reach and/or Cell	7
11.	Survey Data Identification Procedures and Requirements	7 - 8
12.	Payments	8

SECTION 01405 - QUALITY CONTROL

1.	Quality Control Plan	1 - 3
2.	Quality Control Organization	3
3.	Submittals	3
4.	Contractor Quality Control	4
5.	Completion Inspection	4
6.	Documentation	5
7.	Notification of Noncompliance	5
8.	Payment	5

TABLE OF CONTENTS (CONT.)

<u>Para. No.</u>	<u>Title</u>	<u>Page No.</u>
------------------	--------------	-----------------

SECTION 01430 - ENVIRONMENTAL PROTECTION

1.	Work Included	1
2.	Applicable Regulations	1
3.	Permits	1 - 2
4.	Notification	2
5.	Subcontractors	2
6.	Implementation	2 - 3
7.	Water Pollution Control	3 - 4
8.	Air Quality Requirements	4
9.	Noise Suppression	4
10.	Radiological Safety	4
11.	Maintenance of Pollution Control Facilities During Construction	4
12.	Herring Spawning Season	5
13.	Least Tern and Pelican Foraging Habitat	5
14.	Recording and Preserving Historical and Archaeological Finds	5 - 6
15.	Payment	6

DIVISION 2 - SITE WORK
SECTION 02480 - DREDGING

1.	Work Covered by Contract Prices	1
2.	Mobilization and Demobilization	1 - 2
3.	Estimated Quantities	2
4.	Site Conditions	2
5.	Dredging	2 - 7
6.	Disposal of Dredge Material at the Government-Furnished Montezuma Wetlands Project Site	8 - 9
7.	DDLS Backup System	9
8.	Overdepth and Excessive Dredging	9
9.	Reporting Requirements	9 - 10
10.	Pre-dredge and Post-dredge (Final) Surveys	10
11.	Measurement and Payment	11 - 12

TABLE OF CONTENTS (CONT.)

<u>Para. No.</u>	<u>Title</u>	<u>Page No.</u>
Appendix 1	Preparatory Phase Report	
	Initial Phase Checklist	1-1 - 1-4
Appendix 2	Safety Checklists for Floating Plant and Mobile Construction Equipment Inspection	2-1 - 2- 41
Appendix 3	Clamshell Daily Report	3-1 - 3-4
Appendix 4	<u>Estimated Production Schedule</u> not used	<u>4-1 - 4-2</u>
Appendix 5	<u>Accident Investigation Report</u> not used	<u>5-1 - 5-5</u>
Appendix 6	Transmittal of Shop Drawings, Equipment Data, Material Samples, or Manufacturer's Certificates of Compliance, Eng Form 4025	6, 6-1 - 6-2
Appendix 7	Worker's Compensation Claims	7-1 - 7-2
Appendix 8	Guidelines for Preparation of Accident Prevention Plans/Hazard Analysis	8-1 - 8-2
Appendix 9	Dredged Material Disposal Site Log	9, 9-1
Appendix 10	Dredge Data Logging System	10-1 - 10-8
Appendix 11	Sample Construction Quality Control Report	11-1 - 11-4
Appendix 12	Red Obstruction Lighting Standards	<u>12</u> , 12-1 - 12-9
	Appendix 1	
	Figures 11 - 16	
Appendix 13	- not used -	
Appendix 14	Survey Vessel Inspection Checklist	14-1 - 14-2
Appendix 15	Safety Exposure Report	15-1
Appendix 16	Acronym List	16-1
Appendix 17	Dredge Sediment Information	17-1 – 17-5
Appendix 18	Water Discharge Order – Port of Oakland	18-1 – 18-33
Appendix 19	Geotechnical Information	19-1 – 19-15

TECHNICAL CLAUSES

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01005

SUPPLEMENTARY CONDITIONS

1. CONSTRUCTION RIGHTS-OF-WAY.

The construction rights-of-way required to perform the work under this contract will be furnished without cost to the Contractor

2. PERMITS.

2.1 Under Contract Clause "PERMITS AND RESPONSIBILITIES," the Dredging contractor is obligated to obtain and comply with all licenses and permits required by Federal, State, and local laws, codes, and regulations. Dredging contractor will ensure that dredge sediments for disposal at the Montezuma Wetlands Project meet the permitted sediment acceptance criteria.

2.2 The following dredging permits have been obtained:

2.2.1 The Government has obtained dredging and related permits and sediment suitability determinations for dredging within the Oakland Inner and Outer Harbors and disposal of these sediments at the Montezuma Wetlands Project site from the San Francisco Regional Water Quality Control Board Waste Discharge Requirements Water Quality Certification (Permit #00-110), BCDC Phase I and II Consistency Determination, and USFWS Section 7 Consultation and NMFS EFH.

2.3 The Contractor shall be responsible for making his own arrangements for permits, other than those listed herein, required to complete the work under this contract.

2.4 The contractor is responsible for ensuring that all permit notifications have occurred prior to the start of any dredging episode.

3. ORDER OF WORK.

3.1 General. With reference to Contract Clause "SCHEDULE FOR CONSTRUCTION CONTRACTS" and Special Clause "COMMENCEMENT, PROSECUTION AND COMPLETION OF WORK," the Contractor shall mobilize adequate labor, equipment,

materials, and supplies and make a determined and continuous effort to complete the contract work within the time specified.

3.2 Mobilization shall commence not later than ten (10) calendar days after date the Contracting Officer signs the notice to proceed. Dredging shall commence not later than twenty(20) calendar days after the date of receipt of notice to proceed. The Contracting Officer will fax the notice to proceed to the Contractor on the day of signature. The facsimile will be the official notice to proceed for the contract.

3.3 Dredge Sequence. The dredging, transportation and delivery operation for wetland non-cover (WNC) material shall commence and be complete and accepted by Montezuma Wetlands LLC prior to commencing with the operation for dredging, transportation and delivery of wetland cover (WC) material.

4. GENERAL SAFETY REQUIREMENTS.

4.1 General. The Contractor's attention is directed to the Corps of Engineers Manual, EM 385-1-1, "Safety and Health Requirements," dated 3 September 1996 which is included in the contract by reference in the Contract Clause "ACCIDENT PREVENTION." The Safety and Health Requirements will be strictly enforced under this contract, including but not limited to requirements for "Floating Plant and Marine Activities" and "Machinery and Mechanical Equipment" and Coast Guard approved survival suits for all personnel on-board the ocean disposal vessels. EM 385-1-1 and its changes are available at <http://www.hq.usace.army.mil> (at the HQ home page select Safety and Occupational Health). The contractor shall be responsible for complying with the current edition and all changes posted on the web as of the effective date of this solicitation.

4.1.1 Accident Prevention Plan. Prior to commencement of work, the Contractor shall submit an accident prevention plan written for the specific work and hazards of the contract, which shall be subject to review and acceptance by the Contracting Officer. Guidelines for the preparation of the accident prevention plan are in Appendix A of EM 385-1-1, a sample copy of which is attached in Appendix 8.

The Contractor shall prepare for submittal a spill response plan to the Corps and shall be acceptable to the Regional Water Quality Board (Attn: Executive Director) responding to and cleaning up visible releases of contaminants, including, but not limited to, releases of petroleum product "sheens" during dredging operations. REPORT DUE DATE: At least 60 days prior to commencement of construction activities associated with any portion of the project.

4.1.2 Hazard Analysis. A job hazard analysis shall be prepared for each major

phase of work and submitted for review and acceptance by the Contracting Officer prior to commencement of work. The outline for the analysis is shown in Figure 1-1 in Appendix 8.

4.2 Occupational Safety and Health Act (OSHA) Standards. The "Occupational Safety and Health Act (OSHA) Standards for Construction" (Title 29, Code of Federal Regulations Part 1926 as revised from time to time) and the Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1, dated 3 September 1996, are both applicable to this contract. The more stringent requirements of the two standards will be applicable.

4.3 Fire Control.

4.3.1 General. The Contractor shall supply all fire fighting equipment, supplies and personnel and perform all work required by Federal, State and local laws and regulations. Delays due to fire will not be the basis of claim by the Contractor for additional compensation.

4.3.2 Fire Extinguishers. The following policy applies to fire extinguishers for the Contractor's equipment.

(1) Each piece of internal combustion engine drive equipment shall be equipped with a fire extinguisher in accordance with recommendation of the National Fire Protection Association as appropriate.

(2) The minimum approved rating of new extinguishers should be not less than 5-B:C (See NFPA No. 10-1988, OSHA 1926.150, OSHA 1926.151, EM 385-1-1 Section 9).

4.4 Seaworthiness Certification and Equipment Inspection.

4.4.1 Seaworthiness Certification. Before any plant or equipment, including hydrographic survey equipment and crew boat, is put into use on the job, it shall be inspected and tested by the Contractor's operator of the plant or equipment or the manufacturer's representative, in the presence of the Contractor's Safety Officer. The Contractor shall furnish certification in writing that the plant or equipment is operating within manufacturer's tolerances and specifications, is in safe operating condition, and complies with the applicable safety requirements of the contract. All floating plant or dredges shall have a current Coast Guard certification, ABS classification, or marine survey by a NAMS or SAMS surveyor.

(a) All dredges and quarter boats not subject to USCG inspection and certification or not having a current American Bureau of Shipping (ABS) classification shall be inspected in the working mode annually by a marine surveyor accredited by the National Association of Marine Surveyors (NAMS) or the Society of Accredited Marine Surveyors (SAMS) and having at least five years experience in commercial marine plant and equipment. A qualified person shall inspect all other plant annually. The inspection shall be documented, and

a copy of the most recent inspection report shall be posted in a public area on board the vessel and a copy shall be furnished to the designated authority upon request. The inspection shall be appropriate for the intended use of the plant and shall, as a minimum, evaluate structural integrity and compliance with NFPA 302, Fire Protection Standard for Pleasure and Commercial Motor Craft. EM 385-1-1, Section 19.A.01.b.

(b) Cranes and crane operators shall be in compliance with EM 385-1-1 for the life of the contract. The Contractor (including subcontractors) shall have cage boom guards, insulating links, or proximity warning devices on cranes that will be working adjacent to power lines. These devices shall not alter the requirements of any other regulation of this part - even if law or other regulation requires such device. Insulating links shall be capable of withstanding a 1-minute dry low frequency dielectric test of 50,000 volts, alternating current (EM 385-1-1, Section 11.E.07). Calibration records or stamped date of required manufacturer inspection of proximity warning devices shall be kept on the crane. Additionally, prior to any work commencing an Activity Hazard Analysis (EM 385-1-1, Fig.1-1) identifying and satisfying EM 385-1-1, Section 11.A.02, 11.E.03, 11.E.04 and 11.E.05 requirements shall be submitted and accepted by the Contracting Officer.

4.4.2 The Floating Plant and Mobile Construction Equipment Inspection Checklist: Using checklist in Appendix 2, an inspection shall be completed for each piece of floating plant and the completed checklist shall be furnished to the Contracting Officer prior to plant use.

4.4.3 Equipment Inspection. After receipt of the certification required in subparagraph "Equipment Certification" and the checklist in subparagraph "The Floating Plant and Mobile Construction Equipment Inspection Checklist" above, a Government Inspector shall be given eight hours to inspect all plant and equipment to be utilized. He will inspect to determine conformance with the manufacturer's specifications furnished by the Contractor and with requirements of the manual, "Safety and Health Requirements," EM 385-1-1, dated 3 September 1996. The Contractor will not be permitted to use any plant or equipment on the work under this contract until the Government has been allowed the opportunity for inspection during normal working hours and necessary repairs made for deficiencies found on the checklist. Any waiver or delay by the Contractor for any reason of this preinspection will not serve to excuse any noncompliance with safety regulations or the justification of a time extension.

4.5 Accident Reporting. As a part of the requirements for reporting accidents in accordance with EM 385-1-1, Section 1, the Contractor shall; (a) Report all injuries to the designated authority immediately; (b) Submit Corps of Engineers Accident Investigation Report (ENG FORM 3394) within three (3) calendar days; (c) The Prime Contractor shall submit at the 50% point and at 100% of project completion, using form in Appendix 7-1, a written summary of Worker's Compensation Claims filed by workers on the project. The report will include all subcontractors. The main report covering the prime contractor claim will be certified as "correct and true" by the contractor's compensation insurance carrier. The same certification will be

required for subcontractor reports; (d) In the event of death or vessel loss, the Contractor shall verbally notify the Contracting Officer within 3 hours, followed by a written report within 24 hours; and (e) Certify and submit 'Safety and Exposure Report' using the form in Appendix 15, by the 19th of each month.

4.6 Anchoring Discharge Lines. The Contractor shall anchor all discharge lines in a manner that will prevent damage to moored or "underway" vessels. Prior to commencing dredging, the Contractor shall submit an "anchoring plan" for review by the Contracting Officer. No work under this paragraph will be allowed until the Contractor has answered all comments from the review. After the review and finalization of the anchoring plan, the Contractor shall perform, by an independent contract survey, a pre-anchoring hydrographic survey of the pipe alignment. The following survey procedures shall apply: (1) cross-sections shall proceed along centerline at 100' (30.5 m) intervals and extend 100' (30.5 m) each side of the pipe centerline; (2) cross-sections and soundings shall be plotted at 1"=100' (30.5 m). Thereafter, surveys shall be performed once each month for the life of the contract and shall be submitted to the Contracting Officer through the Contractor Quality Control program. If any survey reflects mounding caused by leakage from the discharge line, the Contractor shall immediately remove the mound materials and dispose of them at the disposal site. If the Contractor elects to place the discharge line within the project dredging limits, both top of anchors and top of discharge line shall be below project standard depth. If alignment of the discharge line is outside the project dredge limits, the Contractor shall visually mark pipe and anchors as required for safety of all users of the area.

4.7 Fuel oil transfer operations shall conform to U.S. Coast Guard design regulations. (33CFR 156.120)

4.8 Navigation. The Contractor's operations shall conform to the U.S. Coast Guard publication "Navigation Rules, International-Inland, COMDT INST M16672.2D," dated 99 MAR 25.

4.8.1 Navigation Aids. Navigation aids located within or near the areas required to be dredged will be removed, if necessary, by the U.S. Coast Guard in advance of dredging operations. The Contractor shall not remove, change the location of, obstruct, willfully damage, make fast to, or interfere with any aid to navigation. The Contractor shall notify the Group Commander, 11th Coast Guard District, Aids to Navigation Office, Building 50-6, Coast Guard Island, Alameda, California 94501-5100, Telephone (510) 437-2976, in writing, with a copy to the Contracting Officer, 30 days in advance of the time he plans to dredge adjacent to any aids which require relocation to facilitate dredging. The Contractor shall contact the U.S. Coast Guard for information concerning the position to which the aids will be relocated.

4.8.2 Dredging Aids. The Contractor shall obtain approval from the U.S. Coast

Guard for all buoys, dredging aid markers to be placed in the water and dredging aid markers affixed with a light prior to the installation. Dredging aid markers and lights shall not be colored or placed in a manner that they will obstruct or be confused with navigation aids.

4.8.3 Notice to Mariners. Upon receipt of notice to proceed, the Contractor shall contact the U. S. Coast Guard in sufficient time in advance of dredging operations so that the Coast Guard can include the dredging time and locations in its Notice to Mariners.

4.8.4 Alameda Oakland Ferry Operations. The Contractor's operations shall not obstruct, detour, delay or hazard the Alameda Oakland Ferry operations. The Contractor shall be responsible for contacting the Alameda Oakland Ferry for current and updated operation routes and schedules. (Telephone 510-522-3300)

4.8.5 Signal Lights. The Contractor shall display signal lights and conduct his operations in accordance with the General Regulations of the Department of the Army and of the Coast Guard governing lights and day signals to be displayed by towing vessels with tows on which no signals can be displayed, vessels working on wrecks, dredges, and vessels engaged in laying cables or pipe or in submarine or bank protection operations, lights to be displayed on dredge pipe lines, and day signals to be displayed by vessels of more than 65 feet in length moored or anchored in a fairway or channel, and the passings by other vessels of floating plant working in navigable channels, as approved by the Secretary of the Army (33 C.F.R. 201.1-201.16) and the Commandant, U.S. Coast Guard (33 C.F.R. 80.18-80.31a and 33 C.F.R. 95.51-95.70).

4.8.6 Aerial Obstruction Light. The Contractor shall furnish and install a continuous red light at the highest point on the dredge or vessel as a warning to aircraft in the vicinity of the dredge or construction area. The aerial light shall meet the requirements of FAA Publication Advisory Circular 70/7460-1J, Appendix 12.

4.9 Radiological Safety. If the Contractor intends to use any radiological source on the project such use shall be reported by letter to the Contracting Officer. The letter shall state the type or radioactive material in the source, serial number of the equipment, manufacturer, licensee, and the purpose for which the equipment will be used. A copy of the last safety certification(s) from the appropriate Federal and State agencies shall be included with the letter. No radiological materials shall be stored, handled or used on this contract without the prior approval of the Contracting Officer. The storage, handling and use of radioactive materials shall comply with the pertinent State and Federal (EM 385-1-1) safety regulations.

4.10 Marine Transportation Safety. During dredging, disposal and construction operations, the Contractor shall implement the following U.S. Coast Guard provisions to ensure marine transportation safety:

4.10.1 All Contractor's vessels operating in or near a navigation channel shall continuously monitor VHF-FM Channel 14.

4.10.2 In the event that the Contractor's vessels restrict or affect navigation of other vessels, Contractor's vessel operators shall transmit and confirm their intentions and any other necessary information via Channel 14 to promote safe navigation for all vessels in the project vicinity.

4.10.3 U.S. Coast Guard shall be contacted via radio (S.F. Bay Traffic on Channel 14) each time when: (1) A Contractor's vessel moves a scow between the dredge and the disposal sites; (2) The dredge plant commences dredging operations; and (3) The dredge operators change dredge location. Upon notification, S.F. Bay Traffic will advise affected shipping traffic.

4.10.4 Once the dredge is positioned, S.F. Bay Traffic shall be informed of the extent of any channel obstruction that may occur from dredging operations. S.F. Bay Traffic shall be informed of positions of dredging equipment and vessels at all times.

4.11 Tug and Scow Operator Certification. Tug and scow operators shall be licensed masters. Prior to dredging or construction operations, the Contractor shall submit certification of this requirement.

4.12 Personnel handling or working in the vicinity of coal tar (creosote) treated piles, bottom debris, dredge material shall be afforded appropriate NIOSH approved personal protective equipment during these exposures (i.e. gloves).

4.13 Project Sign. The dredge PROJECT SIGN shall display in same size lettering as the contract number and updated within 3 working days recordable injury accidents (i.e. lost time). Dimensions and size of sign and letters may have to be recalculated in Fig. 1, page 01005-11.

4.14 Dive Plan. A Dive Plan shall be submitted as a safety submittal item of the contract Accident Prevention Plan. All contract diving operations shall be performed in accordance with, EM 385-1-1, section 30.A.04 dated 3 Sep 1996 or the EM 385-1-1 in use at time of the contract award. At a minimum, the dive plan will address items in EM 385-1-1, section 30.A.13

4.15 Means of Escape for Personnel Quartered, or Working on Floating Plant. Two means of escape shall be provided for assembly, sleeping, and messing areas on floating plants. For areas involving 10 or more persons, both means of egress shall be through standard size doors opening to different exit routes. Where nine or fewer persons are involved, one of the

means of escape may be a window (minimum dimensions 24-inches by 36-inches), which leads to a different exit route. Refer to Section 19 of EM 385-1-1.

4.16 Emergency Alarms and Signals.

(a) Alarms. Emergency alarms shall be installed and maintained on all floating plant requiring a crew where it is possible for either a passenger or crewman to be out of sight or hearing from any other person. The alarm system shall be operated from the primary electrical system with standby batteries on trickle charge that will automatically furnish the required energy during an electrical-system failure. A sufficient number of signaling devices shall be placed on each deck so that the sound can be heard distinctly at any point above the usual background noise. All signaling devices shall be so interconnected that actuation can occur from at least one strategic point on each deck.

(b) Fire Alarm Signals. The general fire alarm signal shall be in accordance with paragraph 97.13-15b of the Coast Guard Rules and Regulations for Cargo and Miscellaneous Vessels, Sub-Chapter I, 1 Sep 77 (CG 257).

(c) Abandon Ship Signals. The signal for abandon ship shall be in accordance with paragraph 97.13-15c of the Coast Guard Rules and Regulations for Cargo and Miscellaneous Vessels, Sub-Chapter I, 1 Sep 77 (CG 257).

(d) Man-Overboard Signal. Hail and pass the word to the bridge. All personnel and vessels capable of rendering assistance shall respond.

(e) Hazardous Energy Protection. The Contractor shall develop, implement and maintain at the workplace, a written Control of Hazardous Energy (Lockout/Tagout) System. Refer to Section 12 of EM 385-1-1.

5. PUBLIC SAFETY.

Under the Contract Clause "PERMITS AND RESPONSIBILITIES", the Contractor shall provide temporary fencing, barricades, and/or guards as required to provide protection in the interest of public safety. Whenever the Contractor's operations create a condition hazardous to the public, he shall furnish at his own expense and without cost to the Government, such flagmen and guards as are necessary to give adequate warning to the public of any dangerous conditions to be encountered, and he shall furnish, erect, or maintain such fences, barricades, lights, signs and other devices as are necessary to prevent accidents and to avoid damage or injury to the public. Flagmen and guards, while on duty and assigned to give warning to the public that the project is under construction and of any dangerous conditions to be

encountered as a result thereof, shall be equipped with red wearing apparel and a red flag. Signs, flags, lights, and other warning and safety devices shall conform to applicable city, county, and state requirements. Should the Contractor appear to be negligent in furnishing adequate warning and protective measures, the Contracting Officer will direct attention to the existence of a hazard, and the necessary warning and protective measures shall be furnished and installed by the Contractor without additional cost to the Government. The installation of any general illumination shall not relieve the Contractor of his responsibility for furnishing and maintaining all devices necessary to provide protection to all parties concerned.

6. PROJECT SIGN.

The dredge and survey boat shall each carry a project sign mounted at a highly visible location on the dredge and the survey boat as approved by the Contracting Officer. The sign shall be constructed in accordance with Figure No. 1 included at the end of this section. Signs shall be painted semi-gloss white and lettering shall be painted in semi-gloss black. The castle decal will be furnished by the Government. The sign shall be erected as soon as possible and within 5 days after date of commencement under this contract.

6.1 Other Identification. All floating plant, including survey vessels, shall carry signs, both port and starboard, identifying that they are working under Corps of Engineers contract. The signs shall have red block lettering, not less than six inches high with the wording "U.S. ARMY CORPS OF ENGINEERS CONTRACT NO. DACW07-03-C-_____. Sign background shall be white. Number and size of sign, lettering and other sign features shall be determined at the pre-construction meeting.

7. BULLETIN BOARD.

7.1 General. The Contractor shall construct and erect a bulletin board which shall be accessible at all times and shall contain a copy of wage rates, equal opportunity notice and such other items required to be posted. The bulletin board shall be mounted at a highly visible location on the dredge, or erected at the location directed by the Contracting Officer. The bulletin board shall be erected as soon as possible and within 5 days after date of receipt of notice to proceed.

7.2 Construction. The bulletin board shall be weatherproof, approximately 36 inches wide and 30 inches high, with hinged glass door. Bulletin board shall be painted or have approved factory finish.

7.3 Maintenance and Disposal. The Contractor shall maintain the bulletin board in good condition throughout the life of the contract. The bulletin board shall remain the property of the Contractor and upon completion the contract, shall be removed from the site.

8. HARD HAT SIGN.

The Contractor shall construct and erect a hard hat sign mounted at a highly visible location on each dredge. The hard hat sign shall be constructed in accordance with Figure 2 included at the end of this section. Supporting post or posts shall be sufficiently rigid to support the sign in an upright position under all anticipated conditions. Where necessary, posts shall be braced. The hard hat sign shall be erected as soon as possible and within 5 days after date of commencement of dredging.

9. PRE-DREDGING CONFERENCE.

9.1 After award of contract, a pre-dredging conference will be held at such time and location as determined by the Contracting Officer for purposes of discussing and developing mutual understanding between the Contracting Officer or his authorized representative and the Contractor's Representatives regarding the terms, conditions, and requirements of the contract. Members of the conference from the Government will include the quality assurance staff, the Contracting Officer or his authorized representative, and construction staff. Members from the Contractor shall include the dredge master, chief hydrographic surveyor, and the quality control staff. The Contractor shall present and deliver for the Contracting Officer's approval his work plans and schedule, safety program, environmental pollution control program, sequence of all phases of the work, equipment to be used for the work, and plans for his dredge equipment deployment to minimize navigational hazards and ensure the continuous use of the narrow waterway by navigation during the dredging operations.

9.2 The discussion will include, but will not be limited to, the following:

9.2.1 Contractor supervisory and quality control project staff.

9.2.2 Correspondence between organizations and procedures to be followed.

9.2.3 Safety program.

9.2.4 Environmental pollution control program.

9.2.5 Quality control and hydrographic procedures and requirements.

9.2.6 Project scheduling and payment procedures.

9.2.7 Horizontal and vertical dredging controls.

9.2.8 Data gathering for the DDLS program and the associated requirements.

9.2.9 Other subjects that may be of interest to the contracting parties.

10. PUBLIC UTILITIES AND PRIVATE IMPROVEMENTS.

10.1 General. The Contractor's attention is directed to the possible existence of pipelines or public utilities or private improvements shown or not shown on the drawings which may be buried within the limits of the work or adjacent thereto and the existence of several bridges crossing the river. Bridge horizontal and vertical clearances are shown on the drawings. Care shall be taken to preserve and protect any such improvements from injury or damage during construction operations. Utilities or improvements, whether buried or not, which cannot be determined to exist through visual inspection by the Contractor, if inadvertently damaged by the Contractor's operations, shall be promptly repaired or replaced by the Contractor, and an equitable adjustment in the amount due under the contract will be made as provided in the contract. The Contractor shall assume full responsibility for reimbursing the owners for any damage to their properties, utilities, or improvements, or interference with their services caused through his operations. The Contractor is not relieved from the responsibility set forth in Contract Clause "SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK," except as provided above.

11. LAYOUT OF WORK.

The Contractor shall lay out his work from Government-established monuments and gages as shown on the drawings and shall be responsible for all measurements in connection therewith. The Contractor shall furnish, at his own expense, all templates, platforms, equipment, markers and labor as may be required in laying out any part of the work from the gages established by the Government. The Contractor will be held responsible for the execution of the work to such lines, grades and gages as may be established or indicated by the Contracting Officer. It shall be the responsibility of the Contractor to maintain and preserve all monuments and other marks established by the Contracting Officer until authorized to remove them. It is incumbent upon the contractor or their surveyor to check the accuracy of monuments as the Government does not guarantee their accuracy. If such marks are destroyed by the Contractor or through his negligence prior to their authorized removal, they may be replaced by the Contracting Officer at his discretion. The expense of replacement will be deducted from any amounts due, or to become due, the Contractor.

12. SAFETY OF STRUCTURES.

The Contractor shall use reasonable and proper care in the prosecution of the

work to assure the stability of piers and other structures lying on or adjacent to the site of work, insofar as they may be jeopardized by the dredging operations and on account of moving or mooring of equipment. The Contractor shall make good all damages resulting from the moving and mooring of his equipment and from dredging operations insofar as such damages may be caused by variations in locations and/or depth of dredging below that ordered by the Contracting Officer.

13. PAYMENT.

No separate payment will be made for the work covered under this section of the specifications, and all costs in connection therewith will be considered a subsidiary obligation of the Contractor.

* * *
SAFETY IS A TEAM EFFORT

SECTION 01330

CLASS I HYDROGRAPHIC SURVEYS
FOR INTERIM AND QUALITY CONTROL SURVEYS1. DESCRIPTION OF WORK.

The Government shall perform Class I pre-dredge and post dredge surveys of the Oakland Harbor Navigation Improvement (-50 Foot) Deepening Project, **Inner & Outer Harbor Dredging – Phase 3A** in accordance with the channel alignment data and angle points describing the channel layout provided to the Contractor by the government in the contract electronic CAD drawings.

2. GENERAL.

The Contractor shall be responsible to perform the Class I progress payment and quality control surveys. The Contractor's surveyor shall be provide a copy of a valid California professional license to practice surveying or an American Congress on Surveying and Mapping (ACSM) certification as an "Inshore Certified Hydrographic Surveyor" and has actively engaged in hydrographic survey operations during the past 3 years. He shall provide documentation indicating that modern electronic horizontal positioning and depth finding equipment are available for the surveys to be performed including a Differential Global Positioning System (DGPS) capability which shall include as a minimum, the name, model, and year of manufacture of the electronic equipment, the electronic frequencies of the horizontal positioning equipment and the depth finding equipment, and the manufacturer's stated positioning accuracy and capability of the equipment proposed for usage. In addition, he shall provide information that a safe and suitable vessel is available for the surveying operations. Accuracies and other standards outlined in the hydrographic survey manual (EM 1110-2-1003-Jan 01, 2002) and in Section 02480 "DREDGING" for Class I hydrographic surveys shall be followed when performing any survey. The name of the surveyor and samples of previous hydrographic survey work shall be submitted to the Contracting Officer for review at the survey conferences(s).

The Government will perform Class I surveys for payment and final acceptance of all contract dredging work

3. HYDROGRAPHIC SURVEYS.

3.1 A mandatory pre-surveying conference shall be held to review and discuss control/equipment/procedures/QC program/safety plan/dredging control/calibration/schedule/vessel reports submittals and channel configuration.

3.2 All contract survey work shall be required to be discussed and the following information shall be submitted at the pre-construction survey meeting prior to performing contract survey work:

- (1) Survey Schedule
- (2) Survey Safety Plan (compliance with EM 385-1-1)
- (3) Survey/QC Plan/control/layout/Hypack for Windows (HFW) software version 2.12 Hypack Max.
- (4) Equipment Inspection/Vessel/Installation (survey vessel checklist)
- (5) Listing of survey equipment/current surveyor qualifications

3.3 Vertical control shall be established so that the recording tide gauge control point (where possible) is not more than a 2,500 foot radius from all hydrographic soundings. The project shall be surveyed utilizing the vertical control established for all work and reaches and/or cells.

3.4 Hydrographic sounding lines shall be taken normal to the channel centerline. Centerline project stationing shall be used at all times throughout the hydrographic survey to label sounding lines. Sounding lines shall be (at a minimum) even 100-foot stations and as necessary at all channel angle points for the length of the survey. Soundings shall be at plotted 10 feet intervals and shall not deviate more than plus or minus 10 feet off station alignment. Lines are to extend 100 feet past the toes of the channel unless obstructed. The contractor shall conduct additional soundings on the backside of obstructions to complete sounding lines. Channel toes and centerline shall be marked on the fathometer charts at the time of survey. Additional survey lines shall bisect each angle point on the project. The contractor shall initially perform an overall predredge Class I survey for the entire project prior to performing dredging. A survey line file will determine where contract survey lines shall be taken (.LNW-HFW) Hypack for Windows). The project .LNW file will be given to the contractor at the survey pre-con meeting.

3.5. All survey lines are to be completed as specified in ~~paragraph 3e.~~ Paragraph 3.4. Incomplete lines will be re-run. All line data shall intersect project templates. This avoids computer assumptions for completing lines by averaging. On-board evaluation of survey data is required to allow the survey crew and inspector to evaluate the completeness of survey lines. Survey lines shall be taken a minimum of 100' beyond the toes in open water and bank-to-bank and/or bulkhead. Obstructions are to be (ships, etc) identified. Where appropriate, all soundings shall be taken on maximum high tides.

3.6 . Simultaneous two channel (dual frequency 20-33 KHZ,200-210 KHZ) transducer recording is required for qualitative(20-33khz) and quantitative(200khz) evaluation of sediment lenses and density differentials. All volume computations for QC/final payment/progress shall be computed using 200khz high frequency data. High and low frequency records may be required on HFW x-sections for interpretive purposes. The standard Hypack/smart overdepth AEA (average end area) computation shall be used for determining project quantities. Incomplete and inaccurate data (lines outside survey position limits) shall be resurveyed without delay, preferably on the same survey day.

3.7 Scanned copies (JPEG,TIF,etc) of field books including level line notes, elevation data, BMS, TBM's and location of all control used by the contractor shall be submitted to the Government with the survey data and the Survey Vessel Inspection Checklist, and daily report of survey operations. Squat/settlement curves shall be on-board the survey vessel and are to be incorporated into the survey computations software program (HFW).

3.8 Automatic continuous tide gauge recording during all survey operations is mandatory (not more than 0.1 ft change or 5 minute interval maximum change) for Class 1 hydrographic surveys. The time and date of all surveys shall be provided on the cross-section plots for correlation with the printed tide record. These plots be submitted with the field books. Daily checks of the fixed tide gauge are to be correlated with the automatic system. The gauge(s) shall be operational during all surveys. The survey system shall have the capability for incorporating the real time tidal records on board the survey vessel if requested by Corps inspectors. Hypack for Windows (HFW) raw and edited data shall be submitted to the Corps on CD-R's. All horizontal and vertical control (e.g., tide gauges, BM's, and temporary control) is to remain identical for specific channel reaches and/or cells through the various survey stages of the project. The location, coordinates and description of all control used for specific reaches and/or cells shall be identical to previously used control and fully addressed in the QC/QA plan. The Contractor shall complete at a minimum the Survey Vessel Inspection Checklist included in this section for each survey day for all CQC surveys. Field book records/requirements are contained in the previous section.

3.9 Field Data Collection and Processing. The hydrographic survey system shall be capable of performing "field-finish" operations wherein survey data is collected, processed, and edited (cross-sections) in the field. Cross-section data shall be available for immediate review and evaluation by the Contracting Officer Representative if requested. A daily survey QC log is mandatory and shall be prepared for each day of survey work to report the personnel, craft, equipment, layout, weather/sea conditions, and survey lines accomplished. Fathogram notes shall indicate the location of each sounding line, the date and time (hour and minutes) each sounding line was taken, and explanation of any line terminated early. Notes shall also include tidal data, i.e., height of tide (Mean Lower Low Water Datum), bar checks, velocity of sound, time and date of tide readings and the locations of the tide gauges. The position and identification of all obstructions preventing the collection of soundings shall be recorded in the daily survey QC log.

4. CALIBRATION-ACCURACIES.

4.1 Existing fixed navigation markers shall be located by survey and the coordinates annotated for each fixed marker in the HFW.tgt files.

4.2 The analog recording of echo soundings shall indicate a calibration check (bar check) of the echo sounding at the beginning and end of each analog paper change and at such times as necessary to ensure sounding accuracy. The echo sounder shall have a frequency of 200 KHZ, with a 3.5 degrees cone measured at the 6db point. The top of the return signal trace shall be the point of interpretation of sounding. Bar checks will be taken at a

minimum of five foot intervals. Location/position of bar checks shall be recorded in QC reports. All Class I surveys for contract measurement and acceptance require, as a minimum, twice daily calibration at the project work site. Failure to perform adequate calibrations, including documentation/certification thereof, can lead to total unacceptance of the survey and any payment associated with it. Hydrographic survey procedures (positioning modes, EPS calibration, accuracy requirements, depth measurements calibration, and data reduction, adjustment, processing and plotting) shall conform to industry standards similar or equal to those in the Hydrographic Manual, Corps of Engineers Manual Update, Jan 01, 2002, (EM 1110-2-1003), and other recognized technical manuals and in accordance with Section 02480 "DREDGING". Horizontal location observations shall compensate for standard EPS systematic (calibration) errors, geodetic annotation and processing procedures shall be consistent with recognized hydrographic survey standards. Failure to perform and process such surveys in accordance with recognized standards will result in rejection of and nonpayment for the work performed.

4.3 The Contractor shall use survey methods which conform to the following precisions:

(1) Horizontal - Primary control shall be established to third order accuracy (1:5,000 ratio of closing error to length of line).

(2) Vertical - Primary vertical controls will close within 0.05 foot. MLLW datum shall be obtained by applying the adjustment for the area. All soundings shall be MLLW.

5. HYPACK FOR WINDOWS (HFW) META DATA REQUIREMENTS.

5.1 Hypack Submittals - All hydrographic survey data shall be submitted in an HFW (V8 2.12 Hypack-Max) format (.log, .Lnw, .tmp, .pln, .tgt, etc). Paper products are not required to be submitted to the Corps, unless noted otherwise. The Corps will provide project drawings to the Contractor in an autocad, dwg format (V 2000i) prior to beginning work. Channel/project limits/alignment/stationing/control/geometry/reaches/cells of project will be described by this file. Data shall be submitted on CD-R's (raw and edited data files). CD-R's shall be annotated with data, lines surveyed and vessel information. The Hypack file legend shall also include required information to identify operators and performance information. (Reaches, cells, date, contract number, etc).

5.2 Metadata - In 1994, the FGDC (Federal Geodetic Data Committee) established Geospatial Data Standards that requires the Corps to document origins and characteristic of geospatial data the agency collects or produces, (EM1110-1-2909, 1 Aug 96) addendum 01330-7. The standard is referred to as the "metadata/standard," normally residing in a text file that can be shared easily. Hypack for Windows (HFW) contains the 1994 Standards (FGDC) utilities/file work/metadata. HFW software, Table 8-1 pp 8-4, 8-5 contains collection metadata examples from the New Orleans District for hydrographic survey data collection. Hypack For Windows contains metadata and formatting requirements for

accomplishing these submittal tasks and identifying specific data documentation requirements.

6. SUBMITTALS.

The Contractor shall submit all electronic (HFW) files, field notes, CD-R's, and quantity computations within two (2) calendar days after completion of the survey. The Contractor shall deliver drawings and computations to:

U. S. Army, Corps of Engineers
San Francisco District
ATTN: Construction Services Branch
Bay Model Building
2100 Bridgeway Avenue
Sausalito, California 94965
Telephone: 415-331-0404

7. COORDINATION.

7.1 The Contractor shall begin surveys upon coordination with the Contracting Officer's Representative and coordinate the work with the Construction Services Branch (office in Sausalito).

7.2 Tabulation of quantities for this survey shall be submitted within two (2) working days of completing the survey.

7.3 All original field notes, quality control reports, and scanned files of field books (pcx, tif, ETC.) shall be submitted government no later than two (2) working days following completion of the survey.

8. INTERIM QUALITY CONTROL (CQC) HYDROSURVEYS.

8.1 Quality control surveys shall be defined as the surveys and data produced from the CQC surveys to verify that the work is being performed in accordance with policies outlined in ER 1180-1-6, Construction Quality Management. The surveys shall be performed as required by the Contracting Officers Representative to verify Contractor performance, and verify interim dredging progress in the contract channel reaches and/or cells.

8.2 The Contractor shall provide a survey vessel and crew(s) necessary to perform the (CQC) Quality Control Surveys. The surveys shall be performed at a Class I level of accuracy as specified in the COE Hydrographic Survey Manual, (EM-1110-2-1003, Jan 01, 2002). The survey vessel used to begin the CQC survey operations shall be used for the entire contract period.

8.3. At a minimum, weekly CQC surveys shall be performed in the areas dredged and x-sections/plans and computations shall be submitted to the Corps as verification for progress payments.

8.4 Quality control surveys for payment shall be observed by the COR and a daily log of surveys performed for progress payment shall be prepared (Survey Vessel Inspection Checklist)

8.5 Additional daily surveys may be required by the Project Engineer/COE inspector upon notification to the contractor of the surveys to be performed for quality control/progress.

8.6 Quantity computations - Documentation of (CQC surveys-Hypack edited line files) work performed and material volumes removed shall be provided to the Corps to establish quantities dredged for each partial pay estimate prepared for the progress payments. The Hypack file documentation (volumes) will be attached to the pay estimate as backup information for each pay estimate. This will provide continuity in payment for material dredged from the project for each contract pay period. Surveys for progress payment (CQC surveys) shall be inclusive of limits of the entire reach and/or cell designated for the progress payment. The surveys shall include a separate longitudinal profile of the left and right toes, and project centerline for correlation with the cross-line surveys. Additional longitudinal lines may be required and added dependent on the width of the project channel.

9. APPROVAL AND PAYMENT PROCEDURE FOR CONTRACT SURVEY REACHES AND/OR CELLS - CQC

Insert table of specific survey/dredging/payment reaches with specific stationing identical to the contract drawings.

9.1 Quality Control Surveys for Dredging Progress Within a Contract Reach and/or Cell

A weekly Quality Control survey meeting will be held each Monday morning during the course of the contract dredging operations to discuss progress of work. The Contractor shall assign a full-time CQC manager for this task. A weekly dredging progress work plan shall be prepared by the contractor to show and describe on the plan which areas have been dredged during the previous week and which areas will be dredged for the next week. The progress plan shall be submitted as an Autocad document (.DWG) with a project channel contained in the dwg file and areas dredged shown on the plan. Weekly quality control surveys shall be required at a minimum to document the dredging performed for the previous week. All surveys shall be identified with the appropriate survey data identification requirements that define, in the data title, the parameters of the data submitted. Data shall correlate with the survey line file requirements in, (C. Survey Data Identification Procedures and Requirements.)

9.2 The Contractor shall comply with all requirements of the QC Survey Vessel Inspection Checklist, Appendix 12, submitting a separate survey vessel report with each survey data set. The survey data shall represent the weekly dredging work performed in each reach and/or cell. The contractor shall sequentially survey the specific reach and/or cell for identifying weekly dredging progress. Data sets shall represent the data collected with the appropriate Julian date file extension attached to each line file. Hypack log files shall accurately represent the edited survey lines that function with the Hypack survey software. Compositing/selected data sets of survey line files are not acceptable. Each QC survey shall reflect complete and sequentially surveyed lines and specific dredging progress within the reach and/or cell.

9.3 The Contractor shall submit the previous week's survey data to the Sausalito office of the Corps of Engineers on Monday morning of the following week. Data shall be hand delivered to the Project engineer. Data products shall include a CD-ROM with the survey data correctly identified with the contract data submittal requirements and a hard copy of the cross-section data for review. Data shall be reviewed for dredging progress within the specific reach and/or cell and the results shall be discussed at the weekly Monday QC survey meeting with the Project Engineer.

10. ACCEPTANCE QUALITY CONTROL SURVEYS FOR PROVIDING CORPS SCHEDULED PAYMENT SURVEYS FOR FINAL REACH AND/OR CELL ACCEPTANCE BY THE CORPS OF ENGINEERS.

10.1 Prior to acceptance of an entire contract survey reach and/or cell, the Contractor shall deliver to the Corps a QC survey of the entire reach and/or cell. The Project Engineer and the Chief, Technical Support Section, shall review the final QC progress survey performed by the contractor. Should the data demonstrate that the channel template is not acceptable, a Corps payment QA survey will not be performed until an acceptable QC survey of the entire reach and/or cell is submitted to the Corps by the contractor. Upon demonstrating that the Contractor's dredging progress within the channel is acceptable, the Corps will perform a final survey for the contract reach and/or cell. Each successive dredging reach and/or cell shall be surveyed and accepted/rejected in accordance with this procedure. Final QC acceptance surveys performed by the Contractor shall include longitudinal survey line data at an interval/spacing that is acceptable to the Project Engineer on a case-by-case basis for each project.

10.2 When the contract reach and/or cell is considered to be acceptable for final payment and beneficial use, the Contracting Officer will provide the Contractor in writing a certificate/letter of approval before the Contractor proceeds to the next contract dredging reach and/or cell. Any exception to this procedure requires mandatory approval in writing from the Contracting Officer. The Contractor shall not proceed into the next contract reach and/or cell until final approval and acceptance of the previous reach and/or cell by the Project Engineer.

10.3 The Contractor shall give an advance 5-day notification in writing to the Contracting Officer that the interim payment survey may be required, on a specific date, to

be performed for the subject dredging reach and/or cell, after review and acceptance. If the channel is found to be unacceptable and further dredging and subsequent surveys are required, additional surveys will be performed by the Corps for an additional cost to the contractor of ~~\$5000.00~~ \$6,000.00 per day.

11. SURVEY DATA IDENTIFICATION PROCEDURES AND REQUIREMENTS.

All electronic survey data submitted to the Corps and survey data provided to the Contractor by the Corps shall contain a string of information in the title that clearly identifies the contents of the data. The information is specific for each dredging project and each reach and/or cell of a dredging contract within the San Francisco District. The identification string consisting of 25 characters is divided into 5 separate fields of 5 characters each. The 5 individual fields shall contain the following information in the specific order as shown by the sample 25 character string below:

- | | |
|-----------------------|---|
| 1. Project | Richh, Oakoh, Oakih, Suisb, etc |
| 2. Surveyor | Mansn, Corps, Dutra, Glake, etc |
| 3. Type of Survey | RECON Reconnaissance |
| | CONDT Condition |
| | PLSPC Plans and Specs |
| | PRECT Pre-Dredge Contract (Corps) |
| | POSCT Post-Dredge Contract (Corps) |
| | QUCNT Contractor QC Survey for progress/final survey approval |
| 4. Julian Date (3)(2) | 3 Characters=Day
2 Characters=Year |
| 5. Reach # | Reac# |

A sample data string title would consist of the following information for a compressed data set:

RICHHDUTRAQUCNT03203REAC2.zip =RICHH-DUTRA-QUCNT-032-03-REAC2.zip

Project	Richmond Harbor	RICHH
Surveyor	Dutra	DUTRA
Type of Survey	Quality Control(Contractor)*	QUCNT
Julian Date	032= First of February	03203
	03 = 2003 (year)	
Reach #	Reach2	REAC2

A sample Corps survey identified for final payment is as follows:

RICHHCORPSPOSCT03503REAC2.zip

*All contractor surveys shall include an electronic QC document describing daily operations required by contract, i.e. survey lines, vessel used, crew, equipment, calibrations, speed of sound, check lines etc.

12 PAYMENTS No separate payment will be made for the work specified under this section. Payment for performing the interim surveys for progress payment, quality control surveys (CQC) , including furnishing data, quantity computations and drawings, will be included in the applicable contract unit prices for dredging.

References

- a. Contract Survey Vessel. Inspection Checklist
- b. Contract Safety Inspection Checklist
- c. EM 1110-1-2909, Aug 96 Geospatial Data
- d. General Survey Criteria EM 1110-2-1003, Jan 01, 2002

SUBMITTAL REGISTER																				CONTRACT NUMBER	
TITLE AND LOCATION (ER 415-1-10) OAKLAND HARBOR NAV. IMPROVE. (-) 50 FOOT DEEP PROJECT, ALAMEDA & S.F. COUNTIES, CA															CONTRACTOR					SPECIFICATION SECTION	
TRANSMITTAL NO	ITEM NO	SPECIFICATION PARAGRAPH NUMBER	DESCRIPTION OF ITEM SUBMITTED	TYPE OF SUBMITTAL								CLASSIFICATION	CONTRACTOR SCHEDULE DATES			CONTRACTOR ACTION			GOVERNMENT ACTION		REMARKS
				DRAWINGS	INSTRUCTIONS	SCHEDULES	STATEMENTS	REPORTS	CERTIFICATES	SAMPLES	RECORDS		INFORMATION ONLY	GOVERNMENT APPROVED	REVIEWER	SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	CODE	DATE	
			SECT 01005 - SUPPLEMENTARY CONDITIONS																		
		01005-2/4.1.1	Accident Prevention Plan	X	X		X	X				X									
		01005-2/4.1.1	Spill Response Plan	X	X		X	X				X									
		01005-2/4.1.2	Job Hazard Analysis	X	X							X									
		01005-3/4.4.1	Equipment Certification							X		X									
		01005-3/4.4.2	Floating Plant and Mobile Construction Equipment Checklist	X						X		X									
		01005-3/4.5	Worker's Compensation Claims	X				X	X			X									
		01005-4/4.6	Pipeline Anchor Plan	X	X							X									
		01005-5/4.9	Radiological Safety Letter	X			X		X			X									
		01005-6/4.11	Tug & Scow Operator Certification	X					X			X									
		01005-5/4.9	Radiological Safety Letter	X					X			X									
			Pre-Dredging Conf. Submittals																		
		01005-8/9.2.1	Contractors' Staff	X								X									
		01005-8/9.2.3	Safety Program	X	X							X									
		01005-8/9.2.4	Pollution Control Program	X	X							X									
		01005-8/9.2.5	Quality Control Procedures	X	X							X									
		01005-8/9.2.5	Hydrographic Procedures	X	X							X									
		01005-8/9.2.6	Project Scheduling	X		X						X									
		01005-8/9.2.6	Payment Procedures	X	X							X									
		01005-8/9.2.7	Horiz./Vertical Dredging Controls	X	X							X									
		01005-8/9.2.8	Data Gathering for DDLS Program	X	X							X									
			SECT 01330 - HYDROGRAPHIC SURVEYS																		
		01330-4/5.1	Hydrosurvey Submittals	X	X	X	X		X			X	X								
		01330-4/6	Drawing Submittals	X	X				X			X	X								
			SECT 01405 - QUALITY CONTROL																		
		01405-1/1.1	Quality Control Plan	X	X	X	X	X	X	X		X	X								

SECTION 01405

QUALITY CONTROL

1. QUALITY CONTROL PLAN.

1.1 General. The Contractor shall furnish for approval by the Government, not later than fourteen (14) calendar days after receipt of Notice to Proceed, the Contractor Quality Control (CQC) Plan with which he proposes to implement the requirements of Contract Clause entitled "INSPECTION OF CONSTRUCTION". The plan shall identify personnel, procedures, methods, instructions, records, and forms to be used. If the Contractor fails to submit an acceptable QC plan within the time herein prescribed, the Contracting Officer may refuse to allow construction to start if an acceptable interim plan is not furnished or withhold funds from progress payments in accordance with the Contract Clause entitled "PAYMENTS UNDER FIXED-PRICE CONSTRUCTION CONTRACTS" until such time as the Contractor submits an acceptable final plan.

1.2 Coordination Meeting. At the pre-dredging conference, the Contractor shall meet with the Contracting Officer and discuss the Contractor's quality control system. During the meeting, a mutual understanding of the system details shall be developed, including the forms for recording the CQC operations, control activities, testing, administration of the system for both onsite and offsite work, and the interrelationship of Contractor's inspection and control with the Government's inspection. Minutes of the meeting shall be prepared and signed by both the Contractor and the Contracting Officer. The minutes shall become a part of the contract file. There may also be occasions when subsequent conferences will be called to reconfirm mutual understandings.

1.3 The Quality Control Plan. This plan shall include as a minimum, the following:

1.3.1 A description of the quality control organization, including chart showing lines of authority and acknowledgement that the CQC staff shall conduct the phase inspections for all aspects of the work specified and shall report to the project manager, or someone of higher authority, in the Contractor's organization.

1.3.2 The name, qualifications, duties, responsibilities and authorities of each person assigned a QC function.

1.3.3 A copy of the letter to the QC manager signed by an authorized official of the firm, which describes the responsibilities and delegates the authorities of the QC manager shall be furnished and shall be countersigned by the QC manager acknowledging receipt of responsibilities and duties. The QC manager shall perform only those duties related to this position. A safety officer shall be designated by the Contractor and the safety officer shall

perform only those duties related to this position. Both the QC Manager and Safety Officer positions shall be staffed full-time for the duration of the project.

1.3.4 Procedures for scheduling and managing submittals, including those of subcontractors, offsite fabricators, suppliers and purchasing agents.

1.3.5 Reporting procedures and methods used to obtain information for Quality Control forms, including the submittal of displacement and capacity charts for all barges and scows. Charts shall be certified by a marine architect.

1.3.6 Overflow and Leakage Monitoring Requirement.

1.3.6.1 Overflow Monitoring Requirement. For overflow requirements for scows/barges, refer to Section 02480 -“DREDGING”, paragraph “Overflow from Barges and Scows” for requirements.

1.3.6.2 Leakage. Refer to Section 02480 - “DREDGING”, Paragraph 5.3.1 - “Spillage and Leakage” for requirements.

~~1.3.7 Hopper Dredge Records. The Contractor shall provide equipment that will: (1) furnish a continuous printed record of readings for measurement of bulk density and mass flow rate for each pump, and (2) furnish records of continuous loading of hopper based on hull displacement (load charts). These records shall be provided to the Contracting Officer as requested and approved in the Quality Control plan. The Contractor shall provide a list of equipment at the pre-dredging conference that will provide the required records. The notice to proceed will not be issued under this contract until the Contractor has certified that the necessary equipment to provide the above records and information is installed and working and is acceptable to the Contracting Officer. In the event either velocity and/or displacement equipment breaks down during the dredging operation, the following actions shall be accomplished:~~

~~(1) An alternative means of measurement (Appendix 5-4) shall be performed as approved.~~

~~(2) Alternative measurements shall not exceed a duration of seventy-two hours after equipment breakdown or as otherwise approved. If repairs to the primary equipment are not accomplished within this period, dredging shall be suspended until the primary equipment is operational. The Contractor shall assume all costs associated with the suspended work.~~

~~1.3.8 Hydraulic Dredge Records. The Contractor shall provide equipment that will: (1) furnish a continuous printed record of readings for measurement of flow rate of the discharge material within 20 feet (6 m) of the dredge pump, and (2) furnish a continuous printed~~

~~record of readings for measurement of flow rate of the discharge material within 100 feet (30.5 m) of the discharge manifold. The Contractor shall also furnish continuous velocity records at booster pumps. Equipment shall be accessible from above water platforms. If the readings from the velocity flow equipment indicate leakage within the system, the Contractor shall immediately cease work and repair the leaks. No additional contract time will be provided for leakage repairs. In the event that the dredged material is pumped into a barge or scow, displacement shall be monitored as specified in subparagraph "Clamshell Dredge Reports" after dredging and before disposal at the disposal site.~~

1.3.7 Clamshell Dredge Reports. The Contractor shall monitor the position of the clamshell dredge and position of each scow loaded by the dredge. Monitoring shall be continuous from initial loading, through discharge at the disposal site, and through return to the dredging site. All equipment shall be monitored 24 hours per day, 7 days per week, during the entire period of the dredging contract. The Contractor shall develop his own system of monitoring displacement and capacity for submittal for Government approval. The approved monitoring method shall be able to measure and record average hull displacement and loaded capacity of each scow as specified. All equipment installed aboard each scow shall be furnished and maintained by the Contractor. In the event the displacement and load capacity monitoring equipment malfunctions during the dredging operation for any of the scows, the Contractor shall immediately notify the Contracting Officer, and an alternative means of measurement shall be performed, as approved by the Contracting Officer, using Appendix form 3-2. The use of an alternative measurement system shall not exceed a duration of seventy-two hours after equipment malfunction. If repairs to the primary equipment are not accomplished within this period, the scow shall be removed from project use until repairs are completed and demonstrated to be fully operational. The Contractor shall be responsible for all costs associated with suspending the use of any scow due to monitoring equipment malfunction. Measure displacement at points of loading and unloading to determine if any leakage has occurred.

1.3.8 Record on CD-ROM. The Contractor may submit the continuous recording records specified in Paragraph s ~~"Hopper Dredge Records", "Hydraulic Dredge Records" and "Clamshell Dredge Reports"~~ on CD-ROM. Data shall be on CD-ROM disks, operating under MS-Windows V95 or higher. All data shall be recorded in ASCII text. Other data collection formats will be considered if presented by the Contractor at the predredging conference. Revisions in the collection format will not be considered after the project has begun. All alternatives shall be subject to the approval of the Contracting Officer.

1.3.9 Dredge Data Logging System (DDLs). The Contractor shall acquire, install, calibrate, operate and maintain a dredge data logging system as specified in Appendix 10 of the specifications.

1.4 Acceptance of Plan. Acceptance of the Contractor's quality control plan is required prior to the start of dredging. Acceptance is conditional and will be predicated on satisfactory performance during the construction. The Government reserves the right to require

the Contractor to make changes in his CQC plan and operations as necessary to obtain the quality specified.

1.5 Notification of Changes. After acceptance of the CQC plan, the Contractor shall notify the Contracting Officer in writing of any proposed change. Proposed changes are subject to acceptance by the Contracting Officer.

2. QUALITY CONTROL ORGANIZATION.

2.1 CQC System Manager. The Contractor shall identify an individual, within his organization at the site of the work, who shall be responsible for overall management of CQC and have the authority to act in all CQC matters for the Contractor. This CQC System Manager shall be approved by the Contracting Officer.

2.2 Personnel. A staff shall be maintained under the direction of the system manager to perform all QC activities. The actual strength of the staff during any specific work period may vary to cover work phase needs, shifts, and rates of placement. The personnel of this staff shall be fully qualified by experience and technical training to perform their assigned responsibilities and shall be directly hired for the work by the prime contractor.

3. SUBMITTALS.

Submittals shall be as specified in the Special Clause entitled "SUBMITTALS SCHEDULE". The CQC Organization shall be responsible for certifying that all submittals are in compliance with the contract requirements.

4. CONTRACTOR QUALITY CONTROL.

4.1 General. Contractor Quality Control is the means by which the Contractor assures himself that his construction complies with the requirements of the contract plans and specifications. The control shall be adequate to cover all construction operations, including both onsite and offsite fabrication, and will be keyed to the proposed construction sequence. The controls shall include at least three phases of inspection for all definitive features of work as follows:

4.1.1 Preparatory Inspection. This shall be performed prior to beginning any work on any definable feature of work. It shall include a review of contract requirements; a check to ensure that all materials and/or equipment have been tested, submitted and approved; a check to ensure that provisions have been made to provide required control testing; examination of the work area to ascertain that all preliminary work has been completed; and a physical examination of materials, equipment and sample work to ensure that they conform to approved shop drawings or submittal data and that all materials and/or equipment are on hand. The Contracting Officer shall be notified at least twenty-four (24) hours in advance of the preparatory inspection and

such inspection shall be made a matter of record in the Contractor's Quality Control documentation as required below. Subsequent to the preparatory inspection and prior to commencement of work, the Contractor shall instruct each applicable worker as to the acceptable level of workmanship required in his CQC plan in order to meet contract specifications.

4.1.2 Initial Inspection. This shall be performed as soon as a representative portion of the particular feature of work has been accomplished and shall include examination of the quality of workmanship and a review of control testing for compliance with contract requirements, use of defective or damaged materials, omissions, and dimensional requirements. The Contracting Officer shall be notified at least 24 hours in advance of the initial inspection and such inspection shall be made a matter of record in the CQC documentation as required below.

4.1.3 Follow-up inspections shall be performed daily to ensure continuing compliance with contract requirements, including control testing, until completion of the particular feature of work. Such inspections shall be made a matter of record in the CQC documentation as required below. Final follow-up inspections shall be conducted and test deficiencies corrected prior to the addition of new features of work.

5. COMPLETION INSPECTION.

At the completion of all work, or any increment thereof established by a completion time stated in the Special Clause entitled "COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK", the CQC System Manager shall conduct a completion inspection of the work and develop a "punch list" of items which do not conform to the approved plans and specifications. Such a list shall be included in the CQC documentation, as required by paragraph "Documentation" below, and shall include the estimated date by which the deficiencies will be corrected. The CQC System Manager or his staff shall make a second completion inspection to ascertain that all deficiencies shall be corrected and so notify the Contracting Officer. The completion inspection and any deficiency corrections required by this paragraph will be accomplished within the time stated for completion of the entire work, or any particular increment thereof, if the project is divided into increments by separate completion dates.

6. DOCUMENTATION.

The Contractor shall maintain current records of quality control operations, activities, and tests performed, including the work of suppliers and subcontractors. These records shall be on an acceptable form. The records shall cover both conforming and defective or deficient features and shall include a statement that all work complies with the contract. Legible copies of these records using forms (Appendices 1, 3, 4, 9 and 11) shall be furnished to the Contracting Officer daily. The Contractor shall prepare the "Preparatory Phase Report" and the "Initial Phase Checklist" in Appendix 1 and submit them as part of his Daily Quality Control Report.

7. NOTIFICATION OF NONCOMPLIANCE.

The Contracting Officer will notify the Contractor of any noncompliance with the foregoing requirements. The Contractor shall, after receipt of such notice, take corrective action immediately. Such notice, when delivered to the Contractor or his representative at the site of the work, shall be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost, due to any such stop orders shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

8. PAYMENT.

No separate payment will be made for the work covered under this section and all costs in connection therewith will be considered a subsidiary obligation of the Contractor.

* * *
SAFETY IS A TEAM EFFORT

SECTION 01430

ENVIRONMENTAL PROTECTION

1. WORK INCLUDED.

This section covers the furnishing of all labor, materials and equipment and performing all work required for the protection of the environment during dredging operations except for those measures set forth in other Technical Clauses of these specifications. For the purpose of this specification, environmental protection is defined as the retention of the environment in its natural state to the greatest possible extent during project construction and to enhance the natural appearance in its final condition. Environmental protection requires consideration of air, water and land, and involves noise, solid waste-management and management of radiant energy, and radioactive materials, as well as other pollutants. In addition, environmental protection requires consideration of impacts on vegetation, fish, wildlife and species listed as endangered or threatened, or proposed for such listing by Federal or State agencies, including "sensitive" or "species of concern". In order to prevent, and to provide for abatement and control of, any environmental impact arising from the construction activities in the performance of this contract, the Contractor and his subcontractors shall comply with all applicable Federal, State, and local environmental laws and regulations.

2. APPLICABLE REGULATIONS.

In order to prevent, and to provide for abatement and control of, any environmental degradation arising from the construction activities in the performance of this contract, the Contractor and his subcontractors shall comply with all applicable Federal, State and local laws, and regulations concerning environmental degradation control and abatement, and all applicable provisions of the Corps of Engineers Manual, EM 385-1-1, entitled "Safety and Health Requirements", dated 3 September 1996, as well as the specific requirements stated elsewhere in the contract specifications.

3. PERMITS.

3.1 Under Contract Clause "PERMITS AND RESPONSIBILITIES," the Contractor is obligated to obtain and comply with all licenses and permits required by Federal, State and local laws, codes and regulations. The Dischargers shall maintain a copy of all environmental permits at the site so as to be available at all times to site operating personnel.

3.2 The following permits have been obtained:

The Government will obtain and furnish the necessary dredging permits for dredging and for disposal of dredged material in the Government-furnished disposal areas. Permits for the disposal of dredge material at the Montezuma Wetland Project site are available at USACE, San Francisco District, 333 Market Street, 7th Floor, San Francisco, CA 954105.

3.3. The Contractor is responsible for immediately informing the Contracting Officer by phone, fax or other means if there has been any violation of environmental permit requirements or any adverse condition occurs. An adverse condition includes, but is not limited to, a Violation or threatened violation of the conditions of this WDR Order, significant spill of petroleum products or toxic chemicals, or damage to control facilities that could affect compliance.

3.4 The Contractor shall be responsible for making his own arrangements for permits, other than those listed herein; to perform surveys and other work required completing the work under this contract.

4. NOTIFICATION.

The Contracting Officer will notify the Contractor in writing of any non-compliance with the foregoing provisions and the action to be taken. The Contractor shall, after receipt of such notice, immediately take corrective action. Such notice, when delivered to the Contractor or his authorized representative at the site of the work, shall be deemed sufficient for the purpose. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to any such stop orders shall be made the subject of a claim for extension of time or for excess costs or damages by the Contractor unless it was later determined the Contractor was in compliance.

5. SUBCONTRACTORS.

Compliance with provisions of this section by subcontractors will be the responsibility of the Contractor and the Contractor will be required to insert this section in each subcontract for work at the project site.

6. IMPLEMENTATION.

6.1 Prior to commencement of the work the Contractor shall:

6.1.1 Submit in writing his proposals for implementing this section for environmental pollution control;

6.1.2 Designate an individual responsible for environmental pollution control;

6.1.3 Furnish the Contracting Officer a copy of an authenticated letter of direction to the individual responsible and countersigned by the individual acknowledging receipt of responsibilities and duties for environmental pollution control, outlining his duties and responsibilities;

6.1.4 Meet with representatives of the Contracting Officer to develop mutual understandings relative to compliance with this provision and administration of the environmental pollution control program.

6.2 Unless specifically authorized by the Contracting Officer, no construction will be started until the Contractor's proposed plan for environmental pollution control is approved.

7. WATER POLLUTION CONTROL.

7.1 The Contractor shall not pollute the waters of the bay, rivers, harbors or beaches with fuels, oils or other materials which would have an adverse effect on aquatic life or its habitat or degrade water quality for any protected beneficial use. It is the responsibility of the Contractor to investigate and comply with all applicable Federal, State, County and Municipal regulations concerning pollution of the bay, harbor or beaches. All work under this contract shall be performed in such a manner that objectionable conditions will not be created in the project or adjacent areas. Disposal of any materials, wastes, effluent, trash, garbage, oil, grease, chemicals, etc., shall be subject to the approval of the Contracting Officer and in compliance with all applicable permits. If any waste material is dumped in unauthorized areas, the Contractor shall notify the Contracting Officer and remove the material and restore the area to the condition of the adjacent undisturbed area, at no additional cost to the Government.

7.2 Fueling and lubrications of equipment shall be conducted in a manner that affords the maximum protection to spills and evaporation. Lubricants and waste oil to be discarded shall be stored in marked corrosion-resistant containers and recycled or disposed in accordance with Federal, State, and local laws and regulations.

7.3 Prior to commencement of discharge operations, the Contractor shall provide and have all the necessary personnel and equipment ready to perform all sampling. Monitoring, and testing required at the project site in full compliance with the requirements specified herein, subject to approval of the Contracting Officer under this contract. The Contractor shall also comply with all requirements of sampling, testing and reports specified in the self-monitoring program for the disposal sites.

7.4 The Contractor shall submit sufficient information and data to the Corps for completion of a Dredging, Excavation and Filling Final Report. This report shall be acceptable to the Regional Water Quality Board (Attn: Executive Director) that summarizes compliance of the Project detailing all dredging, excavation, and filling activities. This report shall include a comprehensive discussion of: the compliance record of the project and corrective actions taken; the effectiveness of the receiving water monitoring methods; the effectiveness of dredging, excavating, and filling methods used for minimizing water quality impacts; estimates of the volumes of material dredged, excavated and placed during the project and estimates of total volume of decant water (if any) generated by the project. REPORT DUE DATE: Within 120 days of completion of the dredging and filling operations. See Appendix 17 for WDR requirements and information.

7.5 In order to control surface turbidity and minimize impacts to listed species from the resuspension of contaminants while dredging of the wetland non-cover material (WNC), the contractor shall utilize an environmental (closed type) clamshell bucket to reduce the suspended sediment to settle out in the local dredging area. The environmental bucket shall be similar or equal to those manufactured by Cable Arm Inc.(www.cablearm.com). The contractor shall submit the operation plan for the environmental bucket to the contract representative approval prior to use of the environmental bucket.

7.6 Material dredged by the environmental bucket shall consist of wetland non-cover (WNC) material only. Dredging of the wetland non-cover (WNC) material shall be continuous until refusal ~~of the bucket against existing hard material or to a depth of (-47) Foot, plus 1 Foot overdepth~~ or to a depth of -36 Feet, whichever occurs first.

8. AIR QUALITY REQUIREMENTS.

8.1 The Contractor shall be responsible for compliance with all BAAQMD regulations and standards including obtaining a permit for operation of a stationary source of air pollutants. A copy of the permit shall be included with the quality control plan. ~~If applicable, at the Contractor furnished land disposal site(s), the Contractor will be required to obtain any necessary air quality permits for operation of pumps and equipment. Copies of the permits shall be included with the quality control plan.~~

8.2 The Contractor shall use (1) electric powered dredge(s), (2) retard injection timing of older diesel powered equipment and engines which do not have mechanical injection for NOx control and (3) use reformulated diesel fuel to reduce ROG and SO2 emissions.

8.3 Dredges and equipment shall not be allowed to idle when not required in performing the work.

8.4 Dredges and equipment shall be inspected and given a tune-up at least annually.

9. NOISE SUPPRESSION

Noise mitigation for transport of sediment to Montezuma: Critical grade silencers are to be installed on diesel pumps and each pump completely or partially enclosed so the noise level at Collinsville does not exceed 45 dBA.

10. RADIOLOGICAL SAFETY.

If the Contractor intends to use any radiological source on the project, such use shall be reported by letter to the Contracting Officer. The letter shall state the type of radioactive material in the source, serial number of the equipment, manufacturer, licensee, and the purpose for which the equipment will be used. A copy of the last safety certification(s) from the appropriate Federal and State agencies shall be included with the letter. No radiological materials shall be stored, handled or used on this contract without the prior approval of the Contracting Officer. The storage, handling and use of radioactive materials shall comply with the pertinent State and Federal (EM 385-1-1) safety regulations.

11. MAINTENANCE OF POLLUTION CONTROL FACILITIES DURING CONSTRUCTION.

During the life of this contract the Contractor shall maintain all facilities constructed for pollution control under this contract as long as the operations creating the particular pollutant are being carried out until the material concerned has become stabilized to the extent that pollution is no longer being created.

12. HERRING SPAWNING SEASON.

The Contractor shall avoid dredging in herring spawning areas from November 1 to March 1 of any year, and shall not dredge within 200 meters of any spawning area. The Government will provide herring spawning activity identification information to the Contractor and staff on board the dredge. In addition, the Government will provide a qualified observer, trained by the CDFG, to monitor from the dredge for the presence of herring at or near the dredging site. Once identification has been made, dredging or placement activities will be prohibited within the general area where herring are spawning, for a minimum of 14 calendar days and within a distance of 200 yards or until it can be determined that the herring hatch has been completed and larval herring concentrations have left the site. The time and duration of the spawning events are unpredictable. However, for information only, herring are most likely to spawn during high tides on nights prior to the First Quarter Moon and the New Moon during the months of December, January, and February. All costs associated with relocating the dredging operation away from any herring spawning area to another harbor dredging location, shall be the responsibility of the Contractor for the first three relocations, when directed by the Contracting Officer. If the contractor is directed to relocate his operation greater than the third time, the Corps will negotiate with the contractor for compensation for the cost of relocating his operation.

13. LEAST TERN AND PELICAN FORAGING HABITAT

13.1 Silt curtains or other physical or operational measures shall be employed during any dredging operations in water shallower than -20 feet (MLLW) to minimize sediment dispersal into adjacent least tern and pelican foraging areas beyond the footprint of the dredged areas. Deploy silt curtains and booms around all dredging of contaminated material and wetland non-cover material. The turbidity control measures employed are subject to approval by the Corps. Contaminated material is defined as material that does not meet the classifications of wetland cover material.

13.2 The Contractor is responsible for immediately informing the Contracting Officer by phone, fax or other means, of the finding of any injured or dead least terns or their eggs or brown pelicans or any unanticipated damage to least tern and brown pelican habitat associated with the proposed project.

13.3 Dredging shall avoid direct impacts to the least tern foraging area identified as location #12 in Figure 4 of the USFWS' Draft Comprehensive Conservation Plan for the Alameda National Wildlife Refuge. Between April 15 and September 1, all dredging operation shall avoid this location by a distance of 100 yards. Draft plan information can be provided from the USACE, San Francisco District, 333 Market Street, 7th Floor, San Francisco, CA 94105.

14. RECORDING AND PRESERVING HISTORICAL AND ARCHEOLOGICAL FINDS.

All project areas and items that reveal any evidence of past activity (e.g. wood, stone, bone, shell, midden, human burials, structural features, etc.) shall be carefully avoided. If any construction activity reveals any artifact of archeological or historical interest, work within the vicinity of the archeological or historical interest shall cease, so that the site remains undisturbed. Work may proceed within project areas not associated with the area of archeological or historical interest. The Contractor shall report the find to the Contracting Officer immediately, so that a qualified archaeologist can evaluate the significance of the find and carry out the appropriate actions in accordance with Federal Laws and Regulations. Work in the area in question shall not be allowed until clearance is given by the Contracting Officer.

15. PAYMENT.

No separate or direct payment will be made for the work covered under this section, and all costs in connection therewith will be considered a subsidiary obligation of the Contractor.

* * *

SAFETY IS A TEAM EFFORT

DIVISION 2 - SITE WORK

SECTION 02480

DREDGING

1. WORK COVERED BY CONTRACT PRICES.

The contract price per cubic yard for dredging shall include the cost of removal, transportation and delivery of wetland cover material (WC) and wetland non-cover (WNC) material as specified herein or indicated on the drawings to the Montezuma Wetlands Project site.

2. MOBILIZATION AND DEMOBILIZATION.

2.1 Mobilization shall consist of all work required in preparing the Contractor's dredging plant and equipment for shipment; moving plant, equipment, labor, materials, supplies and incidentals to the job site; making ready for dredging; and maintaining plant and equipment in working condition at the site during the dredging period.

2.2 The Contractor's plant and equipment to be used in performing the work shall be of sufficient size and efficiency to meet the job requirements and will be subject to approval by the Contracting Officer or a properly designated Contracting Officer's Representative (COR). The Contractor for the dredging operation shall coordinate with the Montezuma Wetlands Project (MWP) disposal site contractor for the Montezuma disposal site to ensure that the type of barge or scow (4,000 CY minimum) used for dredge material transport is compatible with the off-loader equipment. Point of contact for information for scow requirements is Montezuma LLC, Managing Partner, Mr. Jim Levine, 510-596-9501.

~~2.3 The dredging contractor will deliver a minimum daily quantity of 4,000cy of dredge material to the Montezuma Wetlands Disposal site, based upon the total number of working days within a monthly 30day period. If the dredging contractor does not deliver the minimum required daily amount of dredge material to Montezuma, Montezuma will be compensated at a rate proportional to the rate the offloader to process the minimum required quantity of 4,000 cy, assuming a delivery rate of 1,000 cy/hr.~~

~~For example, if the dredging contractor delivers only 3,000 cy of material to Montzeuma within a 24-hour period of a production day, then Montezuma will be compensated \$500/hour for every 1000 cy fraction thereof for not meting the minimum delivery of 4,000 cy.~~

2.3 Demobilization shall consist of all work required to prepare plant and equipment for return trip and removing all plant, equipment, labor and unused supplies and incidentals from the job site at the completion of the contract work, including cleaning up any land based staging site used in the prosecution of the work.

2.4 The Contractor will agree that the construction plant, equipment and material will not be removed from the site without the written permission of the Contracting Officer; and agree that structures and facilities prepared or erected for the prosecution of the contract work will be

maintained and not dismantled prior to the completion and acceptance of the entire work without the written permission of the Contracting Officer.

3. ESTIMATED QUANTITIES.

The estimated quantities shown in the bidding schedule for dredging includes material to be removed to the designated limit of overdepth dredging as follows:

3.1 Standard Dredging. The total estimated quantities of material to be removed in the required standard as shown in the bidding schedule for Item 0001, are as follows:

<u>Bid Items</u>	<u>Material</u>	<u>Cubic Yards</u>
0001AB	Wetland Non-Cover (WNC)	135,000
0001AC	Wetland Cover (WC)	209,000

The standard quantity for Bid Item 0001AC – Wetland Cover (WC) includes the quantity for 1-foot allowable overdepth dredging.

These quantities will be used in determining adjustments, if any, under the terms of Special Clause "VARIATIONS IN ESTIMATED QUANTITIES - DREDGING".

3.2 Overdepth Dredging. Overdepth dredging will be allowed to the limits specified in Paragraph § 9, "OVERDEPTH AND EXCESSIVE DREDGING". ~~The maximum amounts of overdepth dredging for Item 0001, is as follows:~~

<u>Bid Items</u>	<u>Material</u>	<u>Cubic Yards</u>
0001AC	Wetland Cover (WC)	000,000

~~These quantities will be used in determining adjustments, if any, under the terms of Special Clause "VARIATIONS IN ESTIMATED QUANTITIES - DREDGING".~~

3.3 Material Designation. Wetland Cover (WC) material is considered to be suitable for aquatic disposal. Wetland Non-Cover (WNC) material is considered to be unsuitable for aquatic, unconfined disposal. When WC sediment is mixed with WNC sediment then the whole load is classified as WNC sediment. Contaminated material is defined as material that does not meet the criteria of wetland cover material.

For the sediment acceptance criteria for the Montezuma Wetlands Project disposal site, refer to Appendix 17. This is FOR INFORMATION ONLY.

4. SITE CONDITIONS.

4.1 The material to be removed to achieve the depth within the limits shown on the drawings is composed of wetland non-cover (WNC) material, and wetland cover (WC) material. In accordance with Contract Clause "SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK (FAR 52.236-0003)" the Contractor is expected to examine the site of the work. The records of previous maintenance dredging are available at the office of the District Commander, U.S. Army Corps of Engineers, San Francisco District, 333 Market Street,

San Francisco, California 94105.

5. DREDGING.

5.1 General. Attention is directed to paragraph 3, "ORDER OF WORK", in Section 01005, "SUPPLEMENTARY CONDITIONS", wherein commencement of mobilization and dredging is specified. Unless otherwise authorized, all dredging shall be performed in the presence of the Contracting Officer or COR.

All waterborne dredges used for the dredging operation shall be electrically powered. Power and other facilities required are the responsibility of the contractor. The Contractor shall schedule dredging operations so as to avoid any interference with marine traffic or terminal operations. Dredging shall be performed by electric clamshell dredge. Clamshell dredging of the non-cover material in the areas indicated on the drawings shall be performed using an approved environmental bucket no larger than 50 cubic yards.

The Contractor shall coordinate with Pacific, Gas and Electric (PG&E) or Alameda Power and Telecom (AP&T), depending where the power source for the dredging operation is, to supply power to the site. The Contractor has the option to bring power for dredging from the north (Port of Oakland) side or from the south (Alameda) side of the Inner Harbor Channel. Cost of bringing electricity to the project site and power consumption for dredging and other work shall be borne by the Contractor.

5.2 Dredging Plan of Operation. Prior to any dredging work, the Contractor shall submit a dredging plan for review and comment. Dredging shall not commence until all comments have been answered to the satisfaction of the Contracting Officer or COR. The plan shall show barge anchoring locations, instrumentation used, coordinates and land elevations of all control points for electronic positioning system and MLLW determination, estimated daily dredge advances, quality control survey procedures, anticipated problem areas of project involving poor access due to boat traffic congestion or boat docking, and procedures to assure that dredging will proceed within the contract template and performed in the most economical manner. ~~The plan shall be updated on a weekly basis to allow notification to harbor and boat owners of dredge progress.~~

The dredging contractor shall deliver a minimum daily quantity of 4,000 CY of dredge material to Montezuma. This 4,000 CY minimum per 24 hr-day quantity is considered as the minimum quantity for one production day. The dredging contractor and the offloader contractor shall together determine the production week and production days within this week. The basis for the determination of a work day, a work week, or both, is the weekly schedule, with consideration of Holidays and Sundays, that the dredging contractor shall prepare and submit to the offloading contractor as described in Paragraph 5.2 "Dredging Plan of Operation". Both parties have 48 hrs to agree to the schedule, if both parties cannot agree to a production schedule within the 48 hrs, the contracting officer will set the production schedule at the minimum rate of 4,000 CY per production day. When both parties agree and sign the schedule, the schedule will be transmitted electronically to the contracting officer for approval. Once approved, the schedule becomes part of the contract.

Standby time and claims for less than the minimum delivered quantities will not be accepted without the production schedule. The Government will provide a table template for the production week. See Appendix 4 "Estimated Production Schedule".

The plan shall be updated on a weekly basis to allow notification to harbor and boat owners of dredge progress.

5.2.1 Acceptance for Payment. The Contractor shall schedule his dredging and disposal operations in accordance with the following specified sequence of dredging, with all dredging/payment/acceptance for the designated dredge material type defined on the drawings.

Each designated area shall have a pre-dredge survey, dredged to specified project depth, post-dredge survey, accepted as final by the Government before progressing to the next reach and/or cell, unless directed by the Contracting Officer. Any deviation from this sequence shall be requested and approved in writing.

5.2.2 The minimum daily quantity of dredged sediments to be delivered and unloaded at the Montezuma Wetland Project disposal site shall be 4,000 CY (minimum) to 16,000 CY, based upon the total number of working days within a monthly 30 day pay period, for dredged materials from the Oakland Harbor Navigation Improvement (-50 Foot) Deepening Project, Inner & Outer Harbor Dredging - Phase 3A. The dredging operation will include the transportation to the Montezuma disposal site.

The dredging contractor shall deliver a minimum daily quantity of 4,000 CY of dredge material to the Montezuma Wetlands Project disposal site, taking into consideration that the dredging contractor has agreed to, and signed off on the mutual weekly production schedule as described in Paragraph 5.2. If the dredging contractor does not deliver the minimum required daily amount of dredge material to Montezuma, the Corps will withhold payment from the dredging contractor in accordance with the following schedule:

<u>Qty of Dredge Material Delivered</u>	<u>Payment Withheld</u>
<u>3,999 cy – 3,500 cy</u>	<u>\$ 625.00/day</u>
<u>3,499 cy – 3,000 cy</u>	<u>\$1,250.00/day</u>
<u>2,999 cy – 2,000 cy</u>	<u>\$2,500.00/day</u>
<u>1,999 cy – 1,000 cy</u>	<u>\$3,750.00/day</u>
<u>0 cy - 999 cy</u>	<u>\$5,000.00/day</u>

When the daily minimum (delivered) production quantity of 4,000 CY is not met, the following documentation shall be prepared: A form sheet that contains the date, time, cause of delay, explanation for why the daily minimum quantity of 4,000 CY could not be met, and the approval signature from the (COR) Contracting Officer's representative. Production delays caused by the Corps of Engineers will be compensated by the Government.

Montezuma will offload a delivered minimum quantity of 4,000 CY or greater, taking into consideration that (1) Montezuma has agreed to and signed off on the mutual weekly production schedule as described in Paragraph 5.2 and (2) that Montezuma did not report any

downtime.

If Montezuma fails to offload a minimum quantity of 4,000 CY or greater of delivered dredge material, the Corps will withhold payment to Montezuma as follows:

<u>Standby Item</u>	<u>Payment Withheld</u>
1) <u>A minimum 1-hr standby rate for the tugboat</u>	<u>\$ 160.00/hour</u>
2) <u>The entire standby rate per hour for the filled, waiting scow</u>	<u>\$ 160.00/hour</u>
3) <u>The cost per hour to moor and secure the filled scow at Montezuma</u>	<u>\$ 160.00/hour</u>
4) <u>The cost for each additional round trip required for the tugboat to retrieve the scow from Montezuma and transport the scow back to the Port of Oakland dredge site.</u>	<u>\$ 4,950.00/trip</u>
5) <u>The entire standby rate per hour for the Dredge & Plant</u>	<u>\$ 550.00/hour</u>

When the daily minimum offload production quantity of 4,000 CY is not met, the following documentation shall be prepared: A form sheet that contains the date, time, cause of delay, explanation for why the daily minimum offload quantity of 4,000 CY could not be met, and approval signature from the (COR) Contracting Officer's representative. Production delays caused by the Corps of Engineers will be compensated by the Government.

5.2.3 The contractor shall utilize the environmental (closed type) clamshell bucket to dredge wetland non-cover material to reduce the suspended sediment in the local dredging area. Attention is directed to Paragraph 7.4 under "Water Pollution Control" in Section 01430 "ENVIRONMENTAL PROTECTION" wherein the dredging operation for wetland non-cover material is specified. Dredging contractor to resume dredging of wetland cover material with a conventional clamshell bucket. Underwater silt curtains are to be used in water shallower than ~~that~~ (-20) feet MLLW. Deploy silt curtains and booms around all dredging of contaminated material and wetland non-cover material, and In-Bay suitable material. Contaminated material is defined as material that does not meet the classification of wetland cover material.

5.2.4 The contract hydrographic survey soundings represent conditions existing on the date of the survey shown on the drawings for the purpose of bidding. The pre-dredge and post-dredge surveys performed by the Government on each reach and/or cell will be used in determining quantity of material for payment. Determination of quantities removed, the deductions made there from and the related computations to determine quantities by in-place measurement to be paid in the area specified, after having once been made, will not be reopened, except on evidence of collusion, fraud, or obvious error. No progress payments will be made for each reach and/or cell until all corresponding Contractor Q/C survey computations, data, field notes and drawings are received by the Contracting Officer.

5.2.5 The Contractor shall complete each dredging reach and/or cell, and perform required Q/C surveys for each reach and/or cell prior to beginning work in any successive dredging reach and /or cell. The Government Project Engineer shall accept or reject each reach and/or cell in writing. The Government inspector shall record the acceptance or rejection of each reach and/or cell in the daily QA report. Only one (1) acceptance survey shall be performed by the Government. Each additional survey required for each reach and/or cell, if rejected, shall be the responsibility of the Contractor. If additional surveys are necessary, they shall be assessed

against the Contractor at the rate of \$5,000.00/day to perform surveys by the Government. Prior to acceptance all shoaling occurring in the reach and/or cell shall be the responsibility of the Contractor. Shoaling occurring after acceptance of the reach and/or cell shall be removed in accordance with terms specified in Section 02480-13, 11.2.5, Shoaling, Dredging, Quantity Surveys (Dredge Quantities).

5.2.6 The quantity reports shall reflect the locations of the dredged material that were excavated within the Oakland Harbor Navigation Improvement (-50 Foot) Deepening Project, Inner & Outer Harbor Dredging - Phase 3A using dredging contractor GPS logs. The Corps will direct the dredging contractor to electronically forward GPS data to the Montezuma wetland disposal site.

5.2.7 If a barge or scow contains dredged materials that are known to or suspected by the Government to fail to comply with the DMMO Suitability Determination for wetland cover or wetland non-cover material, as applicable, Montezuma, will be notified via telephone. Following any such notification, Montezuma shall mobilize their sampling crew to the Port of Oakland within the same business day and shall perform any required sampling. The dredging contractor shall be responsible for securing such barge or scow pending completion of sampling and characterization of the sediments contained therein and pending the Government's determination of appropriate disposition.

5.2.8 Debris. The Contractor, at the dredge site, shall pass the dredge material through a grid with openings of not more than 10 inches in any dimension. For the grid system or alternate method, the Contractor shall submit his plan for slurring and disposal, including but not limited to procedures and equipment used to generate slurry, quality control organization, testing procedures, and test reporting procedures at least ten (10) days prior to dredging.

5.2.9 Debris Grid. If debris is encountered within the dredging prism during the dredging process, it shall be removed and placed in a separate barge or other conveyance and disposed of as specified in subparagraph 5.2.10 ~~5.1.14~~, "Disposal of Debris".

5.2.10 Disposal of Debris. Debris, man-made objects, timber, chains, anchors, flotsam, miscellaneous metal objects and other foreign material removed during dredging shall not be disposed of in the Government-furnished disposal area. Such material shall be disposed of at a land site at the responsibility of the Contractor. Contractor shall be responsible to obtain all necessary permits and approvals to provide disposal of debris.

5.2.11 Misplaced Material. Any material that is intentionally or unintentionally deposited elsewhere than in places designated or approved by the Contracting Officer will not be paid for and the Contractor shall be required to remove such misplaced material and deposit it where directed at his expense.

5.2.12 Three days per calendar month downtime will be allowed to conduct scheduled maintenance and unscheduled repairs, applicable to both the Montezuma contractor and the dredging contractor. The downtime for maintenance shall be scheduled between the Montezuma contractor and the dredging contractor, the schedule shall be provided to the Corps and Port of Oakland, and shall be approved of by the Corps. During the downtime duration, no liquidated

damages or other charges will accrue for either party in the event of non-operation in this time.

The allowed time for scheduled and or unscheduled downtime combined shall not exceed three days.

5.2.13 A maximum of seven workdays, nonconsecutive until seven days are accumulated, or one consecutive period of seven workdays of unscheduled non-operation, will be allowed per calendar year due to equipment and other failure. The same downtime duration is granted to the dredging contractor. During the downtime duration, no liquidated damages or other charges will accrue for either party in the event of non-operation in this time. Montezuma shall understand that the seven days downtime as mentioned in this paragraph are subject to extension, pending upon the, “not yet known” dredging contractor. This non-operation time does not include the “downtime” as mentioned in item 5.2.12.

5.2.14 If an incident arises that will exceed 72-hours ~~a combined downtime of 10 days as described in item 5.2.13 and 5.2.14,~~ and a portion, or all of the 7 work days to a combined 10 days downtime, (combined downtime of paragraph 5.2.12 and 5.2.13), Montezuma shall be charged liquidated damages in the amount of \$500.00 per hour to compensate the dredging contractor’s resulting standby charges incurred.

For example, in January of 2004, if Montezuma has a malfunction, Montezuma is entitled for three days unscheduled down time as described in 5.2.12. If the three-day allowance for unscheduled downtime in the month of January 2004 proved to be insufficient, Montezuma is entitled to use the unscheduled downtime allotted as described in 5.2.13. If at that time Montezuma needed a total of 10 days for repairs, and Montezuma again requires several days of unscheduled downtime in March 2004, then Montezuma will only be entitled to 3 days (maximum) as described in 5.2.12. If Montezuma will require more than 3 days in March 2004, Montezuma will be required to compensate the dredging contractor’s hourly standby rate of \$500/hr. All unscheduled downtime shall be documented and shall be delivered 2 fold to the (COR) Contracting Officer’s representative.

5.2.15 If an incident arises that will exceed 72 hours ~~a combined downtime of 10 days as described in item 5.2.13 and 5.2.14,~~ and a portion, or all of the 7 works days to a combined 10 days downtime, (combined downtime of paragraph 5.2.12 and 5.2.13) the dredging contractor shall be charged liquidated damages in the amount of \$500.00 per hour to compensate Montezuma’s resulting standby charges incurred.

For example, in January of 2004, if the dredging contractor has a malfunction, the dredging contractor is entitled for three days unscheduled down time as described in 5.2.12. If the three-day allowance for unscheduled downtime in the month of January 2004 proved to be insufficient, the dredging contractor is entitled to use the unscheduled downtime allotted as described in 5.2.13. If at that time the dredging contractor needed a total of 10 days for repairs, and the dredging contractor again requires several days of unscheduled downtime in March 2004, the dredging contractor will only be entitled to 3 days (maximum) as described in 5.2.12. If the dredging contractor will require more than 3 days in March 2004, the dredging contractor will be required to compensate the Montezuma’s hourly standby rate of \$500/hr. All unscheduled downtime shall be documented and shall be delivered 2 fold to the (COR)

Contracting Officer's representative.

5.2.16 The dredging contractor and Montezuma shall provide a one time annual equipment inspection and maintenance schedule in coordination with the Corps. The inspection and maintenance duration shall not exceed 30 calendar days. It is expected that the dredging contractor and Montezuma are inspecting and maintaining their equipment to prevent major failures and prolonged non-operation. The schedule shall contain date, time, and duration of scheduled maintenance. The equipment inspection and maintenance work shall be performed within the, "environmental window" of non-dredging period. During the downtime for scheduled maintenance no liquidated damages or other charges will accrue for either party in the event of non-operation in this time.

5.2.17 The dredging contractor will provide cost item per event, for standby assuming that the offloader at Montezuma is no longer operational due to delivery interruption of dredged material, and the offloader has to be brought back online until standby is obtained (fully operational facility) and furnish backup information. This cost factor will be used as necessary if circumstances would make a shutdown feasible.

5.3 Overflow, Spillage and Leakage.

5.3.1 Overflow from Barges and Scows. No overflow of dredged material or water will be allowed from the receiving barges or dump scows during dredging operations. Overflow will be allowed only if the material is wetland cover, as approved by the Contracting Officer or COR. Where overflow is allowed, overflow time shall be limited to 15 minutes and the discharge shall be below the water surface. No overflow is allowed for wetland non-cover material.

5.3.2 Spillage and Leakage. Dredged material and water shall not be permitted to spill over or leak out of barges or dump scows while in transit to the disposal site. Barges or dump scows which exhibit an average loss in vessel draft in excess of one (1) foot between the loaded barge draft recorded at the dredging site and the predisposal draft recorded at the Montezuma Wetland project disposal site will be taken out of service for this project until repaired. The Contractor shall record draft of hull for each scow load as specified under quality control. If applicable, no loss in draft or volume will be permitted from containers transporting dredged materials for land disposal. The Contractor shall paint visible draft levels at one (1) foot intervals and at the 80 percent load line on the inside of each scow.

5.3.3 Monitoring of overflow, spillage and leakage shall be as specified in Section 01405, "QUALITY CONTROL". Refer to Appendix 18 for Water Discharge Requirements and Water Quality Certification for this project.

5.4 Horizontal Position Monitoring of Dredge. The Global Positioning System (GPS) utilizing the Coast Guard Point Blunt D-Beacon shall be used, or other method subject to approval of the Contracting Officer.

5.5 Tidal Control During Dredging. To establish dredging depth to the MLLW datum, the Contractor shall install an automatic recording tide gage with water level sensor placed at the closest Government-furnished tide gage site to each reach and/or cell of the dredging work or as

otherwise approved. The tide gage shall provide a continuous recording of tidal change for every 5-minute interval or each 0.1 foot change, whichever occurs first. Tidal changes shall be recorded in MLLW datum, with these changes clearly displayed for the dredge operator at all times during the dredging process to allow proper adjustment of dredge depth. A printed record of the tidal changes shall become part of the Contractor's daily quality control report.

5.6 Inherent Delays. The Contractor shall anticipate inherent delays while dredging around obstructions such as cable, pieces of metal, chains, etc., that may foul the clamshell and require removal. The bid prices shall include allowances for such inherent delays.

5.7 Survey of Barge Filling Areas Located Outside of the Project Limit. If a receiving barge or dump scow is located outside of the dredging limits during dredging operations, the Contractor shall submit a plan to the Government on how the survey of this area will be performed. This monitoring measure is to ensure no dredged material has been spilled outside the designated dredging areas. Drawings and data shall be provided as specified in Section "HYDROGRAPHIC SURVEYS", paragraph "HYDROGRAPHIC SURVEYS". The drawing requirements may be substituted with CAD drawings and/or HYPACK surveys subject to the Contracting Officer's approval.

5.8 Slurrying Method. The Contractor, at the dredge site, shall pass the dredge material through a grid with openings of not more than 10 inches in any dimension. The Contractor may propose another method that will similarly break up the dredged material which will be subject to the approval of the Contracting Officer.

6. DISPOSAL OF DREDGED MATERIAL AT THE GOVERNMENT-FURNISHED MONTEZUMA WETLANDS PROJECT SITE

6.1 Dredged material shall be transported and delivered by barge or dump scow to the Montezuma Wetland Project (MWP) site for offloading and disposal as indicated on the drawings. The offloading and disposal handling of the dredged material will be the responsibility of the contractor for the Montezuma Wetland Project Site LLC. The dredging contractor shall coordinate and communicate with the contractor at the Montezuma site during the offloading and handling of the dredge material. The Dredging Contractor is responsible to sequence the delivery of dredged materials regarding foundation and cover materials as well as grain size for the final top one foot layer and cover sediment that directly covers the none cover materials. The dredging contractor shall be responsible for the delivery of out of sequence dredged materials to Montezuma.

6.2 The dredging contractor will position the scow within reach of the suction boom equipment, and to provide tugboats to maneuver the dredge scows during off-loading. The towing vessel, which transports the scow to the Montezuma disposal site, shall maneuver the scow to the off-loader and assist Montezuma personnel to secure the scow to the off-loader. The towing vessel shall then move to the designated waiting area and shall wait until the scow is emptied by the off-loader.

After completion of the dredge material offload from the scow, the towing vessel shall maneuver itself and provide assistance to release the scow from the Montezuma off-loader, and resume the return trip back to the Port of Oakland –50 foot dredge site with the scow in tow.

6.3 The dredging contractor is responsible for all damage done to the wharf structure or to the Montezuma offloader (Liberty), caused by movement of dredge scows or other vessels under the control of the dredging contractor. The dredging contractor is also responsible for all damage caused to the off-loader, sediment pumps and pipeline due to debris with a diameter greater than 10-inches.

6.4 The Montezuma Wetlands Project Site shall accept delivery of, shall offload from the dredging contractor's barges or scows, shall assume custody, control, and ownership of, and shall assume "cradle-to-grave" responsibility for and all obligations and liabilities associated with both "wetland cover" and "wetland non-cover" dredged material upon delivery, provided that:

(1) The delivered dredged material conforms to all the requirements, parameters, and provisions of this contract; and further provided that

(2) The dredged material from the Oakland Harbor Navigation Improvement (-50 Foot) Deepening Project, Inner & Outer Harbor Dredging - Phase 3A conforms in all respects to the Dredged Material Management Office (DMMO) Suitability Determination issued for material from that project.

6.5 The Montezuma Wetlands Project site shall have the understanding that the dredging operation for the Oakland Harbor Navigation Improvement (-50 Foot) Deepening Project, Inner & Outer Harbor Dredging – Phase 3A is a 24 hr - 7 days a week operation.

6.6 The dredging contractor shall submit to the Corps weekly schedules with estimated quantities for proposed dredging a minimum of 7 days in advance.

6.7 Disposal of Debris. Debris, man-made objects, timber, chains, anchors, flotsam, miscellaneous metal objects and other foreign material removed during dredging shall not be disposed of in the Government-furnished disposal areas. Such material shall be disposed of outside the limits of the work and on a land disposal site in accordance with local, State and Federal laws and regulations at the responsibility of the Contractor.

6.8 Misplaced Material. Any material that is intentionally or unintentionally deposited elsewhere than in places designated or approved by the Contracting Officer will not be paid for and the Contractor shall be required to remove such misplaced material and deposit it where directed at his expense.

6.9 Notification. When utilizing the Montezuma Wetlands Project site, the Contractor shall notify the U.S. Coast Guard via radio (S.F. Bay Traffic on Channel 14) five minutes in advance of actual departure from the dredge site and immediately prior to actual delivery and disposal operations. The Contractor shall follow established guidelines by the U.S. Coast Guard and maintain a log of disposal movements using form in Appendix 9-1. By Monday morning of each week, FAX the prior week's disposal and disposal site log sheets to the U.S. Army Corps of

Engineers, Construction Operations Branch, ATTN: David Dwinell at (415) 977-8483. The reporting day begins at 0000 hours and ends at 2400 hours.

7. DDLS BACKUP SYSTEM.

Any failure of the DDLS system, components and sensors shall be repaired within 48 hours of the failure in accordance with Appendix 10 subparagraph "Sensor Performance Requirements". During the 48-hour failure period, the Contractor shall continue dredging and disposal operations utilizing his DDLS backup system. The DDLS backup system must be approved by the Contracting Officer and shall be in place and operational prior to dredging and disposal operations.

8. OVERDEPTH AND EXCESSIVE DREDGING.

8.1 Overdepth. The 1-foot allowable overdepth shown on the drawings is being allowed for the wetland cover material to ensure removal of a sufficient amount of material to reach project depth and width. Dredging for wetland non-cover material shall not be performed deeper than refusal with the environmental bucket or to -36 Feet, whichever occurs first. No payment will be made for materials removed from beyond the neat line template (side slope) or maximum overdepth pay-line shown on the drawings. Materials sloughing into the payment area from outside the neat line side slopes shall be removed at no additional cost to the Government. Overdepth dredging will not be allowed in areas already at or below project depth.

8.2 Excessive Dredging. Dredging for wetland cover material shall not be performed below the allowable overdepth. The Contractor may be subject to sanctions by Federal, State and local agencies for excessive dredging.

9. REPORTING REQUIREMENTS.

The Contractor will be required to prepare and submit daily reports of operations on quality control forms as directed and/or accepted by the Contracting Officer or COR. Sample forms are shown in the Appendixes at the end of this section. The daily reports, which may be supplemented with hydrographic survey cross-sections, shall document dredging operations for all shifts in a 24-hour period. Further instructions on the preparation of the reports will be furnished at the pre-dredging conference.

9.1 DDLS Records. Electronic copies of the DDLS positional data shall be submitted to the Corps on CD-ROMs. Positional data shall include records of dredge equipment and all disposal vessels utilized for this contract. The Contractor shall furnish the CD-ROMs, and a copy of the computer program and hardlock (if required) to playback/print all contract DDLS electronic data to:

U.S. Army Corps Engineers
San Francisco District
ATTN: Construction Services Branch
Bay Model Building
2100 Bridgeway Avenue
Sausalito, CA, 94965.
Telephone: 415-331-0404

10. PREDREDGE AND POSTDREDGE (FINAL) SURVEYS.

The Government will perform the predredge survey(s) after award of contract and prior to commencement of dredging. For the postdredge survey(s), the Contractor shall notify the Contracting Officer at least 72 hours prior to completion of the entire work or any acceptance reach and/or cell as approved by the Contracting Officer and the Government will perform the final survey approximately 5 days after completion of the work or acceptance reach and/or cell at no cost to the Contractor. All reaches and/or cells found to be in compliance with the contract requirements will be accepted finally and be measured for payment as stated in Paragraph "MEASUREMENT AND PAYMENT", subparagraph "Measurement for Payment" here in below. If the Government is unable to perform the final survey(s) due to the failure of the Contractor to complete the work in accordance with his prior notification, the Contractor shall be responsible for any survey plant and labor standby costs at \$5,000.00 per day and an adjustment will be made to the contract price therefore. Preliminary data from the final Government survey will be available within five (5) calendar days. If the preliminary survey data indicates that the project is not to the depth required in some or all of the reaches and/or cells or the completed work, then the Contractor shall resume dredging within seven (7) calendar days after completion of the field survey work to complete the work down to project depth. When the acceptance reach and/or cell or completed work is found to be in satisfactory condition, it will be accepted. The Government will perform only one post-dredge survey per reach and/or cell or completed work at no cost to the Contractor. Any additional post-dredge surveys or sounding operations performed by the Government due to the Contractor not reaching project depth in a reach and/or cell or completed work shall be charged to the Contractor at the rate of \$5,000.00 per day for each day in which the Government plant is engaged in sounding and/or is en route to or from the site, or held at or near the said site, for such operations. The Contractor will not be allowed any additional compensation for work under this paragraph.

11. MEASUREMENT AND PAYMENT.

11.1 Mobilization and Demobilization. Payment for mobilization and demobilization will be made at the contract lump sum price for "Mobilization and Demobilization" in the schedule under which contract award is made, and in accordance with Special Clause "PAYMENT FOR MOBILIZATION AND DEMOBILIZATION". This price and payment shall be full compensation for moving all plant, labor, materials, supplies and equipment necessary to perform the dredging onto the jobsite, preparing plant and equipment ready for work, and removing same from the jobsite upon completion of the contract work.

11.2 Dredging

11.2.1 Measurement for Payment. Measurement for payment of the total amount of material dredged will be made based on the cubic yards of material in-place, by computing the volume between the bottom surface shown by soundings from the Government pre-dredge survey taken before dredging and the bottom surface shown by soundings from the final Government post-dredge survey compared with the neat line template, using the average-end-area method. This quantity shall include excavation performed within the allowable overdepth limits and exclude

excessive dredging as specified under paragraph "OVERDEPTH AND EXCESSIVE DREDGING".

11.2.2 The contract drawings represent conditions existing on the date of the survey shown on the drawings and are for information purposes only. A pre-dredge survey will be performed by the Government prior to issuance of the NTP and will be used in determining quantity of material for payment. Determination of quantities removed and the deductions made therefrom to determine quantities by in-place measurement to be paid in the area specified after having once been made will not be reopened, except on evidence of collusion, fraud or obvious error. No payments will be made until all computations, field notes and drawings are received for progress payment.

11.2.3 Monthly partial payments will be based on approximate quantities determined by electronic hydrographic soundings as specified in Section 01330, Paragraph 8 - "INTERIM AND QUALITY CONTROL (CQC) HYDROSURVEYS". Copies of all original field notes, quantity computations and drawings performed by the Contractor for the purpose of layout and progress shall be furnished to the Contracting Officer at the site of work for use by the Contracting Officer to the extent necessary in determining the proper amount of progress payments due the Contractor.

11.2.4 Payment for dredging will be made at the applicable contract unit prices bid, in the schedule under which contract award is made, under items:

“0001AB” Dredging, Transport and Delivery of Non-Wetland Cover (WNC) Material in the Montezuma Wetlands Project Site”

“0001AC” Dredging, Transport and Delivery of Wetland Cover (WC) Material in the Montezuma Wetlands Project Site”

If applicable, payment for dredging will be made at the applicable contract unit price bid, in the schedule under which contract award is made, option item:

“0002AA” Stand by Time

“0002AB” Transportation and disposal of debris

The prices and payments thereof shall constitute full compensation for all mobilization and demobilization, dredging, progress payment surveys, quality control surveys, barge filling area surveys and disposing of all materials above allowable overdepth and side slopes, in accordance with the drawings and specifications.

11.2.5 Shoaling. Shoaling occurring within project limits prior to acceptance of any section or reach and/or cell shall be removed by the Contractor and no additional payments will be made by the Government for dredging and disposal of this material. Shoaling occurring within the project limits after acceptance of any reach and/or cell and prior to the completion of the contract shall be removed at the contract unit price for dredging, within the limit of available funds, if agreeable to both the Contractor and the Contracting Officer. The quantity of shoaling to be paid

for will be measured by the cubic yard by computing the volume between the surfaces shown by soundings taken after shoaling and the final survey made after the shoaled material has been removed.

* * *
SAFETY IS A TEAM EFFORT

APPENDIX 10

DREDGE MONITORING SYSTEM OPERATIONAL REQUIREMENTS (DDLs)

Dredge Monitoring System Operational Requirements-(DDLs)

Questions concerning Dredge Monitoring specifications shall be directed through the U.S. Army Corps of Engineers San Francisco District, Engineering and Technical Services Division, Construction Services Branch at (415) 331-0404.

Automated Dredge Positioning and Tide system

The Contractor shall electronically monitor dredge position on a 24-hour basis at 2-minute intervals using a Global Positioning System capable of positional accuracy of less than 6 ft. Tides shall be monitored at the same time interval with an accuracy of +/- 0.1 feet. Data shall be recorded to a logging system aboard the dredge and downloaded wirelessly at 4-hour intervals to a third-party server. The logging system shall have battery backup to compensate for power interruptions. Downloads shall be performed automatically and monitored by a USACOE approved third-party subcontractor for reliability. A system shall be in place that processes incoming data automatically as it is received. The data shall be posted for viewing on a password-protected web site when it is received. The web site shall provide the following features:

- 1) Dredge position plot over an electronic NOS chart
- 2) Display of the dredging template limits
- 3) Color-coding of each dredge position fix per categories listed below (eg. dredging, dredge transiting, maintenance, weather delay).
- 4) Display of monitoring data for a user-selectable time period (mm/dd/yy to mm/dd/yy).
- 5) Download of data via FTP in a USACOE-approved format compatible with USACOE analysis software. (Reference "Data Download Requirements" section)

The third-party subcontractor shall perform frequent Quality Assurance and Quality Control of the data. Equipment maintenance, troubleshooting and calibration shall be conducted by the same third-party subcontractor.

The Contractor may procure website, data transfer and monitoring services from SAIC or an equivalent service. Information can be found on SAIC's website www.adiss-afiss.com <<http://www.adiss-afiss.com>>.

Dredge Operators Log

Daily dredging "operator logs" shall be entered on a USACOE-approved web site. A 24-hour record of start and end times shall be recorded to the nearest minute for

project time categories, and shall be entered to the web site for recording in an off-site database. At a minimum, time categories shall include the following:

- | | |
|------------------------------------|-----------------------------------|
| 1) Dredging | 8) Standby for next shift |
| 2) Moving Dredge | 9) Weather Delay |
| 3) Maintenance | 10) Vessel Traffic |
| 4) Crew Change | 11) Material Agitation (dragging) |
| 5) Repairs | 12) Shifting Scows |
| 6) Mobilize / Demobilize Equipment | 13) Standby for Scows |
| 7) Miscellaneous Non-Revenue | |

Operator Log data entry on the web site shall begin immediately following issuance of the contract Notice to Proceed and shall end upon completion of project demobilization. Data for the previous day shall be entered the following morning. A third-party subcontractor shall check data for Quality Assurance and Quality Control. The operator log data shall be made available for viewing in color-coded, graphical form on the web site.

The Contractor shall input final bathymetric QC and interim check survey volumes to the web site no later than 48 hours after completion of the survey. A third-party subcontractor shall check the data for Quality Assurance and Quality Control. The data shall be made available for viewing on the web site.

Prior to equipment mobilization, the Contractor shall submit for USACOE approval, a document from the third-party contractor describing the equipment, methods and past reliability statistics of the monitoring system proposed for use on the contract.

Dredge Plant Specific Monitoring Requirements

The type of dredge plant and method of material placement employed during the contract Operations shall dictate monitoring requirements beyond those listed in the "Dredge Monitoring Requirements" section. Types of dredging equipment are described in detail in Engineer Manual 1110-2-5025 "Dredging and Dredged Material Disposal." Dredging equipment not listed below shall require submittal of a suitable monitoring schedule to the USACOE for approval prior to equipment mobilization.

Trailing Suction Hopper Dredge (TSHD):

Aquatic Disposal

The Contractor shall provide a means to measure and record vessel heading, drafts, bin levels and slurry velocities in addition to the vessel position. Hull position and heading of the vessel shall be monitored on a 24-hour basis using a Global Positioning System capable of position accuracy less than 6 ft. Sensors

located fore and aft along the vessel centerline shall monitor vessel draft to an accuracy of ± 0.1 ft. Acoustic sensors located fore and aft along the vessel centerline shall monitor bin level to an accuracy of ± 0.1 ft. Slurry velocity shall be recorded by a magnetic flow / Doppler metering device approved and calibrated according to manufacturer's specifications. Slurry velocity shall be recorded on the discharge side of the dredge pump(s) in feet per second (accurate to 0.1 ft/s).

Position, heading, draft, bin and slurry velocity data shall be monitored at an interval of 10 seconds within 3,000 feet of the placement area and at 2 minute intervals at distances greater than 3,000 feet. Data will be displayed at the same intervals to a helmsman display within the TSHD wheelhouse. The display will include the dredging site, the appropriate placement site, marine sanctuary boundaries, as well as the correct NOS chart. The helmsman display will record electronic operator entries for the designated trip number, vessel identification, fore and aft vessel draft measurements (prior to departure from dredge site) and volume of material loaded. The system will log data internally and be equipped with a means to transfer the recorded data to a server computer for immediate processing and display. The web site shall be password-protected, and programmed with an automated alarm system to notify the Government should leakage or a misplacement of material occur during transit. The Project Manager shall report the incident to USACOE within 12 hours of occurrence.

Information displayed on the Internet will be similar to that displayed for the TSHD helmsman, and will be checked for accuracy and proper sensor operation by the approved third-party subcontractor. In the event the displacement and load capacity monitoring equipment malfunctions during the dredging operation, the Contractor shall immediately notify the Contracting Officer, and an alternative means of measurement shall be performed, as approved by the contracting officer. The use of an alternative measurement system shall not exceed a duration of seventy-two hours after equipment malfunction. If repairs are not accomplished within this period, the TSHD shall be removed from project use until repairs are completed and demonstrated to be fully operational. The Contractor shall be responsible for all costs associated with suspending the use of the TSHD due to monitoring equipment malfunction.

The TSHD operator shall monitor the helmsman display periodically and contact the Contractor Project Manager via phone in the event a loss of draft greater than 2 ft occurs during transit to the placement area.

A USACOE-approved third party subcontractor shall perform frequent Quality Assurance and Quality Control of the data. Equipment maintenance, troubleshooting and calibration shall be conducted by the same third-party subcontractor.

Upland placement

Monitoring shall occur as directed in the TSHD Seafloor Placement Section. Data recording intervals shall be maintained at a fixed 2-minute interval throughout the dredging cycle.

Clamshell or Excavator Dredge:

Aquatic Material Placement via Tug/Scow

The Contractor shall provide a means to measure and record position, drafts, and bin-levels of each scow loaded by the dredge. Monitoring shall be continuous from initial loading through discharge at the disposal site. Hull position and heading of the scow shall be monitored using an onboard Global Positioning System capable of position accuracy less than 6 ft. Sensors located fore and aft along the vessel centerline shall monitor vessel draft to an accuracy of +/- 0.1 ft. Acoustic sensors located fore and aft along the vessel centerline shall monitor bin level to an accuracy of +/- 0.1 ft.

Position, draft and bin levels shall be monitored and recorded at 10-second intervals within 3,000 feet of the placement area and at 2-minute intervals at distances greater than 3,000 feet. Data shall be transmitted wirelessly in real-time at the same intervals to a helmsman display within the wheelhouse of the towing vessel. The display will include the dredging site, the appropriate placement site, marine sanctuary boundaries, as well as the correct NOS chart.

Data recorded on the scow system will be downloaded daily to the third party server through either the helmsman display system or the automated dredge position and tide system. Either system will also record the scow identification, towing vessel identification, fore and aft vessel draft measurements (prior to departure from dredge site) and volume of material loaded. Either system will log data internally and be equipped with a means to transfer the recorded data wirelessly to an off-site server computer.

Data from each previous trip shall be uploaded to a third-party server prior to the start of each new trip. An automated system shall be in place to process and display the data on a USACOE-approved web site. The web site shall be password-protected, and programmed with an automated alarm system to notify the Government and Contractor should leakage or a misplacement of material occur during transit. Determination of leakage and placement information shall be derived from draft sensor data and position information.

Information displayed on the Internet will be similar to that displayed for the helmsman, and will be checked for accuracy and proper sensor operation by the approved third-party subcontractor. In the event the displacement and load capacity monitoring equipment malfunctions during the dredging operation, the Contractor shall immediately notify the Contracting Officer, and an alternative

means of measurement shall be performed, as approved by the Contracting Officer. The use of an alternative measurement system shall not exceed a duration of seventy-two hours after equipment malfunction. If repairs are not accomplished within this period, the scow or tug shall be removed from project use until repairs are completed and demonstrated to be fully operational.

A USACOE-approved third party subcontractor shall perform frequent Quality Assurance and Quality Control of the data. Equipment maintenance, troubleshooting and calibration shall be conducted by the same third-party subcontractor.

Upland placement via Tug/Scow

Monitoring shall occur as directed in Section “Seafloor Material Placement via Tug/Scow”. Data recording intervals shall be maintained at 2 minutes throughout the dredging, transit and discharge cycles.

Hydraulic Cutter-head Dredge:

Dredge monitoring and reporting requirements shall be carried out according to Section “Dredge Monitoring Requirements”. Two GPS units shall be incorporated. One GPS antenna shall be located near the pivot point of the suction ladder. The second GPS antenna shall be located at the stern of the dredge. Dimensions of the dredge and GPS antenna locations measured to the nearest 0.5 feet shall be provided to the USACOE.

Slurry velocity shall be recorded by magnetic flow / Doppler metering device approved for use by the USACOE and calibrated according to manufacturer's specifications prior to commencement of work. Slurry velocity shall be recorded on the discharge side of the dredge pump(s) in feet per second (accurate to 0.1 ft/s).

A USACOE-approved third party subcontractor shall perform frequent Quality Assurance and Quality Control of the data. Equipment maintenance, troubleshooting and calibration shall be conducted by the same third-party subcontractor.

Data Download Requirements:

Data File Naming Convention

Data for daily operations beginning at 0000 hours and concluding at 2400 hours shall be encompassed in files formatted with the following naming convention: DjjjYnn.bbb. “jjj” represents the Julian day, “nn” represents the abbreviated year, and “bbb” represents the vessel name by a unique 3-character abbreviation. Processed and QA/QC’ed data files shall be made available for download within 8

hours of collection. Data shall be made available for download in batches via a user-selection of a) starting and ending dates and b) vessel name.

Data Field Descriptions

1) Local time shall be output to the nearest second in military-style 24-hour format. The time data field will occupy 11 characters in an hour-minute-second form so that a typical time entry representing 1 minute and 30 seconds past 4 o'clock PM would appear as:

Time (local hour-minute-second)

16.	01.	30.
-----	-----	-----

2) Horizontal dredging equipment positioning shall be provided in feet in California State Plane (Lambert coordinate) based on North American Datum 1983.

Northing and Easting Format

540000.	1400100.
---------	----------

3) Headings shall be recorded for position in positive degrees only from 0 to 360 degrees and to the nearest whole degree. 0 degrees shall equal true north and with a sign convention so that positive degrees are in a clockwise direction. Headings shall occupy a data field 4 characters long so that a typical entry of 90 degrees due east would be:

Heading (degrees)

0	9	0	.
---	---	---	---

4) The Government-furnished datum shall be used for all DDLS tide datum. Above datum (positive) tide values shall be entered into the DDLS data file with a positive sign (+) as the first tide data field character, and below datum tide values shall be entered into the DDLS data file with a negative sign (-) as the first tide data field character. DDLS tide data shall occupy a data field 4 characters in length with a typical below datum entry appearing as:

Tide (feet)

--	--	--	--

-	1	.	0
---	---	---	---

5) Draft data will occupy two data fields with 4 characters each so that the DDLS entry would appear as:

Draft (fore and aft, respectively, in feet)

4.7	4.5
-----	-----

6) Hopper and barge bin levels are to be recorded upward positive values from the bottom of the hopper or barge bin. Hopper and barge material levels will occupy 2 data fields that are 4 characters long each. A typical barge or hopper level input would appear as:

Barge or Hopper Level (fore and aft, respectively, in feet)

3.8	3.9
-----	-----

7) Slurry velocity shall be recorded in feet per second in 3 significant digits. A typical velocity value in the output string would occupy a 4 character field and appear as:

Slurry Velocity (feet per second)

<u>1</u>	<u>0</u>	.	<u>0</u>
----------	----------	---	----------

Output Format Example

A typical data file download from the web site would have the following properties:

File name:

“D214Y05.PS1” (The file would contain a 24-hour record of the 214th day of the year 2005 for the dredge plant with identified by the name “PS1”)

Data Contained in the File:

“00. 02. 00. 530100. 1400100. 090. 15.0 1.15 -42.0 16.4 1.19 -41.1 15.5 14.9 12.4 12.9 +2.5”
“00. 04. 00. 530103. 1400104. 090. 15.0 1.14 -42.0 16.3 1.19 -41.1 15.5 14.8 12.3 12.9 +2.5”

Sensor Calibration Procedures and Document Submittals

The third-party monitoring subcontractor shall provide dimensioned drawings of each dredge plant. Dimensions shall include vessel and bin lengths, depths, and widths. GPS, draft and bin sensor locations shall also be included in the drawings.

Barge and hopper ullage tables listing bin volume as a function of material level shall be submitted to the USACE. Barge and TSHD draft displacement tables indicating vessel displacement tonnage as a function of draft shall also be submitted. The ullage and displacement tables shall be certified by a licensed marine surveyor or architect. Ullage and draft information shall include a polynomial equation describing the volume versus tonnage.

A third-party monitoring contractor shall conduct calibrations of draft and bin sensors prior to the project start. Physical tape-measurements of draft and fluid level shall be conducted during the calibration of the electronic system. Sensors shall be calibrated such that electronic sensor measurements match physical measurements during a fill cycle of an empty scow or hopper with water. The test fill cycle shall be repeated until sensor data and physical measurements match to within 0.2 ft. The final calibration cycle shall be recorded electronically, plotted and submitted to the USACE for approval.